H-200

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File Code: 1560/2520

Date: May 12,2000

CALFED
Bay-Delta Program Office
1416 Ninth Street, Suite 1155
Sacramento, CA 95814

Dear CALFED Program Managers:

We are responding to your 2001 CALFED Request for Proposals. Enclosed, please find 10 copies of our formal proposal to conduct ecosystem restoration work on National Forest lands within the Deer, Mill, and Butte Creek Watersheds. This proposal represents Phase II of a 1997 two phase CALFED grant project designed to restore ecological processes within the Deer and Mill Creek watersheds, and Phase 1 projects designed to restore ecological processes in the Butte Creek watershed and expand watershed stewardship education and interpretation programs.

With the help of the 1997 CALFED grant the Forest has been able to maintain its commitment to accelerate watershed restoration work. The Forest's watershed restoration team was very successful in implementing restoration work in 1999 and received national recognition for its efforts. This success and recognition could not have possible without the support of CALFED and our many partners and supporters. The 2001 proposal again reflects a collaborative effort among three watershed conservancies, large private landowners, other Federal, State, and local agencies, and numerous individual stakeholders. We believe this proposal represents the priorities of our fellow stakeholders and compliments the work already underway in each of the three watersheds. Combined, we believe that all of the proposed and ongoing restoration activities will make a significant contribution to meeting the overall CALFED objectives and management strategies for the entire Bay-Delta system. We have structured this proposal in such a way that its tasks are severable and yet still capable of delivering incremental desired effects. Hopefully this will afford you the greatest flexibility in allocations across the entire spectrum of your funding requests.

The Forest has assigned Russ Volke, CALFED Coordinator, to answer any questions regarding the proposal content. Should our proposal be funded, Chief Financial Officer Elaine Courtright would be the primary contact for fiscal matters. Please telephone Russ or Elaine if you have any questions about the enclosed formal proposal.

Sincerely,

EDWARD C. COLE
Forest Supervisor

ENCLOSURE
10 copies plus one floppy

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Proposal # 2001- H-200 (Official Use Only)

A. PSP Cover Sheet

Proposal Title: Lassen National Forest Watershed Stewardship Within the Anadromous Watersheds of Butte, Deer, and Mill Creeks.

Applicant Name: USDA, Forest Service, Lassen National Forest

Contact Name: Jeff Withroe, Forest Ecosystem Manager

Mailing Address: Supervisors Office, Lassen National Forest
2550 South Riverside Drive, Susanville, CA 96130

Telephone: (530) 257-2151

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Email: Forest Supervisor: fs/r5_lassen@fs.fed.us Ecosystem Manager: jwithroe/r5_lassen@fs.fed.us

Amount of Funding Requested: $849,845 for Three years.

Cost share Partners? x Yes __ No
Identify Partners and amount contributed: US Forest Service; Region 5 Office and Lassen N.F.: $492.000

Indicate the Topic for which you are applying. (check only one box).

☐	Natural Flow	☐	Beyond the Riparian Comdor
☐	Nonnative Invasive Species	☐	Local Watershed Stewardship
☐	Channel Dynamics/Sediment Transport	☐	Environmental Education
☐	Flood Management	☐	Special Status Species Surveys and Studies
☐	Shallow Water Tidal/Marsh Habitat	☐	Fishery Monitoring, Assessment and Research
☐	Contaminants	☐	Fish Screens

What county or counties is the project located in? Butte and Tehama Counties.

What CALFED Ecozone is the project located in? See attached list and indicate number. Be as specific as possible: Watershed numbers 7.3, 7.4, and 7.6 of Ecozone number 7 , Butte Basin.

Indicate the type of applicant (check only one box)

☐	State Agency	☒	Federal Agency
☐	Public/Non-profit joint venture	☐	Non-profit
☐	Local government/district	☐	Tribes
☐	University	☐	Private Party
☐	Other		

Indicate the primary species which the proposal addresses (check all that apply):

- ☐ San Joaquin and East-side Delta tributaries fall-run chinook salmon
- ☒ Winter-run chinook salmon
- ☒ Spring-run chinook salmon
- ☐ Late-fall run chinook salmon
- ☒ Fall-run chinook salmon
- ☐ Delta smelt
- ☐ Longfin smelt
- ☐ Splittail
- ☐ Steelhead trout
- ☐ Green sturgeon
- ☐ Striped bass
- ☐ White sturgeon
- ☒ All chinook species
- ☐ Waterfowl and Shorebirds
- ☐ All anadromous salmonoids
- ☐ Migratory birds
- ☐ Other listed T/E species

Indicate the types of project (check only one box)

- ☐ Research/Monitoring
- ☐ Watershed Planning
- ☐ Pilot/Demo Project
- ☐ Education
- ☐ Full-scale Implementation

Is this a next-phase of an ongoing project? Yes X No ___
Have you recievied funding from CALFED before? Yes X No ___

If yes, list project title and CALFED number: Watershed Improvement: Stabilization of potential sediment sources within the Deer, Mill, and Antelope Creek watersheds on Lassen National Forest Lands. CALFED Number: 1425-98-AA-20-16210.

Have you received funding from CVPIA before? Yes ___ No X

If yes, list CVPIA program providing funding, project title and CVPIA number.

By signing below, the applicant declares the following:

- The truthfulness of representations in their proposal;
- The individual signing the form is entitled to submit the application on behalf of the applicant (if the applicant is an entity or an organization); and
- The person submitting the application has read and understood the conflict of interest and confidentiality discussion in the PSP (Section 2.4) and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant, to the extent as provided in the section.

EDWARD C. COLE
(Printed Name of Applicant)

Edward C Cole
(Signature of Applicant)

B. Executive Summary

Project Title: Lassen National Forest Watershed Stewardship Within the Anadromous Watersheds of Butte, Deer, and Mill Creeks.

Amount Requested: $849,845 over three years.

Applicant: Lassen National Forest
2550 Riverside Drive
Susanville, CA 96130

Primary Contact: Jeff Withroe, Ecosystem Manager
Phone: (530) 257-2151, E-mail: jwithroe/r5_lassen@fs.fed.us
Fax: (530) 252-6428

Participants and Collaborators: Lassen National Forest, Pacific Southwest Region, US Forest Service, Deer, Mill, and Butte Creek Watershed Conservancies, Collins Pine Company, Chester High School, Chester Elementary School, National Marine Fisheries Service, CALTRANS. (See Appendix A for List of Supporters)

In 1997, the Lassen National Forest (LNF) received a Phase I CALFED grant to plan extensive restoration work, and implement and monitor several demonstration projects within the Deer, Mill, and Antelope Creek watersheds. These watersheds support most of the few remaining naturally reproducing stocks of anadromous fish in the Sacramento Valley. Our watershed analysis found the condition of two key watershed elements (surface erosion and near stream disturbance) were significantly different than their historical condition. We now estimate that erosion rates in the upper watershed are sixty percent higher than historic rates. The analysis further determined that roads were a primary source of the near stream disturbance, and also the primary source of accelerated surface erosion. The grant was used to identify biologically and physically sensitive areas where we could greatly reduce sediment delivery through appropriate treatment. We have determined that most (70%) of this accelerated erosion is produced by 5% of the road segments. The hypothesis being tested is whether we can bring about a significant improvement to watershed condition and resiliency in the upper watershed and provide additional protection to downstream beneficial uses by systematically identifying and then effectively restoring the highest sediment producing sites. Our Phase I work has significantly reduced many uncertainties. We have identified the locations and causes of our chronic sediment sources and implemented many effective restoration treatments. We are monitoring these treatments and are applying adaptive management principles to refine and improve our restoration practices. Although site-specific inventory data suggests reduction of sediment transport from treated sites, we are uncertain to what extent site-specific improvements will affect stream dynamics and ecological function at larger scales. It is likely that measurable improvement in the quantity and quality of available spawning habitat will take time (and triggering streamflow events) to be manifested. We also know that public support is essential to our restoration work and we will test the hypothesis that interpretive displays and educational programs will increase public understanding and subsequently build greater public support.

The primary biological/ecological objectives of our stewardship project meet the ERP objective of ecosystem quality, and are designed to improve riparian and fisheries habitat, restore wetlands and natural stream morphology and promote and maintain important ecological processes and functions. ***Our*** proposal also addresses the Strategic Plan goals of recovery of at-risk native species, reversing downward population trends of listed and non-listed and listed native species, and protecting and/or restoring functional habitat types. The project links to our Land and Resource Management Plan (LRMP) as amended by PACFISH, the Clean Water Action Plan, and SWRCB Beneficial Uses. Collectively the activities compliment planned and ongoing restoration activities and management in the watersheds (by the Forest Service, watershed conservancies, Resource Conservation Districts and private landowners) and contribute to CALFED's long-term mission to restore ecosystem health and improve water management for beneficial uses of the Bay-Delta system. Tasks are designed to provide long term benefits to the spring and fall-run chinook salmon and steelhead habitat by reducing accelerated sediment production, restoring riparian areas, and educating the public on watershed stewardship principles. These activities have the potential to improve habitat, but more importantly will provide additional insurance for protection of habitat quality from future disturbances (i.e. wildfire, flood, spills) by improving overall system health, condition, and resiliency. Monitoring conducted during and following implementation will help answer questions regarding design effectiveness for performance and maintenance, and adaptive management options

The LNF has worked with stakeholders to develop consistent inventory techniques, complimentary implementation of restoration strategies, uniform monitoring protocols, coordinated maintenance planning, and adaptive management strategies. CALFED funds, like other grants, allow us to accelerate our watershed restoration efforts, continue current and forge new partnerships with fellow stakeholders, expand school educational opportunities, and also improve the Forest's competitive position for additional internal funding.

C. Project Description

The LNF watershed stewardship proposal includes three watershed-based restoration tasks within the anadromous watersheds of Deer, and Mill Creeks in Tehama County, and Butte Creek in Butte County (See Appendix B Vicinity Map). Tasks 1a and 2a include **44** extensive sediment reduction projects in Deer and Mill Creek watersheds (Phase II portion of the Forest's 1997 CALFED grant). Additional proposed activities include a Colby Creek Meadow condition survey; followed by the implementation of meadow restoration demonstration projects, installation of interpretive displays at seven recreation areas along Deer and Mill Creeks, a campground education program at Potato Patch campground, a summer patrol of the Spring-run chinook salmon spawning areas in Deer Creek, and the establishment of Watershed Stewardship education programs at Chester Elementary and High Schools.

We have worked with Watershed Conservancies, landowners, and other stakeholders to identify and prioritize restoration sites. Restoring or rehabilitating these sites would help achieve the goals and strategic objectives of CALFED, the Watershed Conservancies Management Plans, and the Forest's Land and Resource Management Plan (as amended by PACFISH). These plans recognize humans are integral components of, as well as the greatest modifiers of the ecosystem, and those human interests must be incorporated into restoration decisions. Our proposal focuses on reducing accelerated erosion and improving public understanding of watershed-fisheries linkages. The proposed restoration activities focus on the stabilization, restoration, and maintenance of ecological processes and link these projects to public education and the ongoing restoration efforts of other landowners. Each restoration activity emphasizes long-term protection and enhancement rather than short-term improvement. Adaptive management designs allows for future activities to build on these initial actions.

These proposals have widespread public support and represent the collaborative effort of many stakeholders in the watersheds. Through workshops and field meetings, criteria to establish priorities for this work were developed. Five primary criteria were used to prioritize sites: 1. Diversion potential, 2. Subwatersheds with the highest biologically or physical sensitivity, **3.** Potential to produce the most sediment, **4.** Subwatersheds with other ongoing or planned restoration activities, and 5. Greatest chance of being successfully implemented within the planned time frames. For road projects (other than decommissioning), only sites on arterial roads not under consideration for closure were considered. The Forest Service has taken steps to assure the scientific credibility of the actions taken in this proposal by asking individuals from research and academia to participate in the review of the "Road Management Guide", our comprehensive Roads Analysis Process, the site selection criteria, and monitoring activities. Further review is provided by members of Conservancies and several task groups (i.e. restoration, monitoring) active in the watersheds.

The **Tasks** described below achieve the mission of CALFED, by addressing improvement and restoration of riparian habitat, wetlands, and natural stream morphology problems in the resource area of ecosystem quality. Several of the activities are common to two or more tasks (watersheds). The **Subtasks** under each Task address ecological and biological restoration objectives, rather than specific implementation actions. Each Task is more specifically addressed by individual task subtask/activity, deliverables/objective, and budget in Tables 1-3.

Task 1: Deer Creek Ecological Unit Watershed Stewardship: The Deer Creek Ecological Unit is located within the Butte Basin Ecological Management Zone. Restoration sites were selected based on both physical and biological criteria applied to each subwatershed. Of the twenty five subwatersheds studied in the Deer Creek Watershed Analysis, six high priority subwatersheds were identified. In these six subwatersheds, improvement of aquatic habitat, restoration of wetlands and riparian areas, and restoration of natural stream morphology are the deliverables. Interpretive displays would be installed at Potato Patch and Alder Campgrounds, Deer Creek Falls, and the Deer Creek Trailhead. A Potato Patch Campground host will be established to lead education programs and patrol anadromous reaches near the campground for fishing violations and harassment of holding salmon. This effort would be closely coordinated with CDF&G and LNF law enforcement officers, who are working to increase presence and enforcement in several anadromous creeks including Deer Creek. The Chester School District's Watershed Stewardship program would build from the

already established Creeksiders program developed by the Deer Creek Conservancy. At the elementary level its focus will be on teaching watershed stewardship principles, and involving the students in watershed restoration projects. At the high school level the program will supplement the current science curriculum with the addition of a course covering watershed stewardship, watershed restoration, anadromous fisheries, watershed dynamics, and managing watershed resources. The Forest, Conservancies, schools, and other stakeholders will contribute time to plan and implement this program. (Reference Table 1)

Task 2: Mill Creek Ecological Unit Watershed Stewardship: The Mill Creek Ecological Unit is also located within the Butte Basin Ecological Management Zone. Restoration sites were selected using both physical and biological criteria applied to each subwatershed. Of the fifteen subwatersheds examined in the Watershed Analysis, two were selected as high priority for restoration actions. Of particular concern is the extent of highly erosive rhyolitic soils in these subwatersheds. The treatments will be effective in reducing sediment delivery and moving flow, sediment transport, and woody debris recruitment processes toward their natural condition and compliment ongoing restoration in these and adjacent subwatersheds. Interpretive displays will be installed at Black Rock and Hole-in-the-Ground campgrounds and Brokenshire Picnic Area to provide information to recreationists. The Conservancy would assist the Forest in their design and location. (Reference Table 2)

Task 3: Butte Creek Ecological Unit Watershed Stewardship: The Butte Creek Ecological Unit is located in the Butte Basin Ecological Management Zone. The Colby Meadow condition assessment would provide information on meadow attributes, channel stability and vegetation. It would serve as a pilot for sharing information with stakeholders on inventory techniques and monitoring protocols. If the assessment recommends restoration action, areas within the meadow would be established as restoration demonstration sites. Potentially a variety of restoration projects and techniques would be implemented and monitored. Results would be shared and adaptive management strategies tested. (Reference Table 3)

Subtasks l a and 2a: Extensive Erosion/Sediment Control Projects Within Deer and Mill Creeks: These Subtasks are composed of restoration actions that target altered hydrographic regimes and are designed to reduce source sediment production and produce more natural patterns of runoff. The actions promote and maintain important ecological processes and functions. The natural ecological processes of runoff, sediment transport, and woody debris recruitment contribute to conditions that are favorable to salmon, steelhead and their habitat. Activities will protect and may improve aquatic habitats by reducing sediment production through a variety of treatments. The subtasks will also restore wetlands and riparian areas through decommissioning of roads, and restore natural stream morphology and improve non-anadromous fish passage by upgrading culverts or replacing them with fords. These subtasks link directly to CALFED grant #1425-98-AA-20-16210 that funded the identification of project sites, the design of improvements, and the environmental analysis of proposed activities.

Subtasks lb, 1c, 1d, and 2b: Interpretive Sites and Educational Programs in Deer and Mill Creek Watersheds: We feel that educating the public, fellow stakeholders, and our youth, on the principles of responsible watershed stewardship is essential to achieving the Forest's and CALFED's long term management objectives for the Bay-Delta system. Providing interpretive displays at recreation areas, and involving our youth directly with restoration work, provides a hands on learning forum. Displays will focus on responsible watershed stewardship practices and anadromous fisheries resources. Universal design will reduce production costs. The displays will also provide restoration explanations and Agency and Conservancy announcements.

Subtask 3a and 3b: Colby Creek Meadow Condition Assessment Including Demonstration Sites: Meadow condition assessments are a critical component in improving our understanding of meadow systems. Meadows play an instrumental role in providing refugia for terrestrial and aquatic species, storing both water and sediment, and provide a diverse array of habitats and vegetation. Often we cannot clearly target the cause of meadow degradation, which leads to poor meadow restoration decisions. Our approach is to use the 228 acre Colby Meadow complex as a demonstration area for both the appropriate level of survey to assist in determining cause and effect relationships and design of appropriate management practices that will improve the condition of the meadow. Surveys will integrate standardized survey protocols, such as Proper Functioning

Condition, Stream Condition Inventory, Greenline surveys, and vegetative frequency survey. This information will help determine the condition of the meadow, and provide a baseline for monitoring trends.

Table 1: **Deer Creek (Task 1)** Activities, Deliverables, and Budget (CALFED Funds Only)

Start and Completion Date	Subtask and Activity	Deliverables/Objectives	Budget
1/2001 thru 12/2003	**Subtask 1a,** Road Restoration: Subwatersheds, D5, D10, Dl 1, D12, D14, and D16. Upgrade/replace crossings, 11 sites Outslope and raise road grades, **5** sites, Eliminate diversion potential, 4 sites Decommission roads 3 sites, 1.25 miles Construct Ford Crossing, 2 sites Pave approaches to bridge, 2 sites,	nprove aquatic habitats, reduce xcessive sediment. Restore wetlands and riparian areas; nd rehabilitate disturbed areas. Restore natural stream morphology nd reduce hazard and risk from tream crossings.	Total: **$340,490**
4/2001 thru 9/2001	**Subtask 1b,** Interpretive Signing: Install Watershed Stewardship display at Potato Patch, Alder Campgrounds, Upper Deer Creek Falls, and the Deer Creek Traiihead.	ncrease public education and wareness	Total; **$12,000**
1/2002 thru 9/2003	**Subtask 1c,** Campground Education and Patrol **of** Anadromous Reaches to provide protection from poaching for holding Spring-run chinook salmon.	Increase public education and awareness of good watershed stewardship practices and the anadromous fisheries resource.	$18,900 annually for two years Total: **$37,800**
6/2001 thru 612003	**Subtask 1d,** Chester School System Watershed Stewardship Program reaching watershed stewardship principles, and involving students in watershed restoration projects. Supplement current science curriculum with the addition of course units covering watershed stewardship, restoration, limnology, anadromous fisheries, watershed dynamics, and managing watershed dynamics. Provide Education Outreach Coordinator to help schools and to facilitate outreach programs.	Increased awareness, understanding and appreciation of watershed stewardship at elementary school level. Increased exposure to scientific curriculums, increased knowledge, understanding and capabilities of students at the high school level. Development of education curriculum for Plumas County schools. Development of public education and outreach programs. Creation of educational pamphlets, and extensive outreach to landowners in the Deer Creek watershed.	$25,200 Annually for two years for school Watershed Stewardship Programs. 18,000 Annually for three years for Education Outreach Coordinator. Total: **$104,400**
1/2001 thru 12/2003	Project Management for Task 1	Review project designs and specifications, inspect work in progress, continuous coordination with partners, stakeholders, and the public during final planning work, implementation and monitoring. Manage budgets and reporting.	Total: **$33,010**
* Individual activities are severable.			Total Task 1 cost **$527,700**

Table 2: **Mill Creek (Task 2)** Activities, Deliverables, and Budget (CALFED Funds Only)

Start and Completion Date	Subtask and Activity	Deliverables/Objectives	Budget
1/2001 thru 12/2003	**Subtask 2a,** Road Restoration: Subwatersheds, M-11, M-12 Upgrade/replace crossings, 7 sites Eliminate diversion potential, 7 sites Decommission Roads, 2 sites, 1 mile Construct Ford Crossing, 2 sites	Improve aquatic habitats; reduce excessive sediment. Restore wetlands and riparian areas, and rehabilitate disturbed areas. Restore natural stream morphology, reduce hazard and risk from stream crossings, improve fish passage.	Total: **$204,560**
4/2001 thru 9/2001	**Subtask 2b** Interpretive Signing. Install Watershed Stewardship display at Black Rock and Hole in the Ground Campgrounds, and Brokenshire Picnic Area.	Increase public education and awareness	Total: **$9,000**
1/2001 thru 12/2003	Project Management for Task 2	Review project designs and specifications, inspect work in progress, continuous coordination with partners, stakeholders and the public during final planning work, implementation and monitoring. Manage budgets and reporting requirements.	Total: **$16,150**
* Individual activities are severable.			Total Task 2 cost **$229,710**

Table 3: **Butte Creek (Task 3)** Activities, Deliverables, and Budget (CALFED Funds Only)

Start and Completion **Date**	Subtask and Activity	Deliverables/Objectives	Budget
9/2001 thru 9/2003	**Subtask 3a**, Colby Meadow Condition Assessment Conduct studies to understand the meadow dynamics using standardized survey protocol, i.e. Proper function and condition, Stream classification Inventory, Greenline surveys, etc.	Determine the condition of the meadow and the key processes that shape the meadow.	Total: **$37,000**
9/2001 thru 12/2003	**Subtask 3b.** Colbv Meadow Demonstration Projects Complete NEPA work; Prepare monitoring plan; Implement demonstration projects incorporating adaptive management principles that will improve the condition of the meadow.	Restore meadow and riparian habitat.	Total: **$48,800**
9/2001 thru 12/2003	Project Management for Task 3	Review project designs and specifications, inspect work in progress; coordinate with partners, stakeholders and the public during implementation and monitoring.	Total: **$6,635**
* Task 3a is severable from 3b, but 3b is not severabl iom 3a.			Total Task 3 costs **$92,435**
Total CALFED grant request for all three Tasks.			Total Cost of all Tasks **$849,845**

1. Statement of the Problem:

a. Problem: In **1997,** the Lassen National Forest (LNF) received a Phase I CALFED grant to plan extensive restoration work, and implement and monitor several demonstration projects within the Deer, Mill, and Antelope Creek watersheds. The grant used findings of the LNF's Watershed Analysis for Antelope, Deer, and Mill Creek watersheds. These watersheds support the majority of the few remaining wild stocks of anadromous fish in the Sacramento Valley. The analysis found the condition of two key watershed elements, surface erosion and near stream disturbance were significantly different than their historical condition. The analysis further determined that roads were a primary source of the near stream disturbance, and also the primary source of accelerated surface erosion.

This project addresses the changes in geomorphic processes brought about through the extensive development of the upper watersheds, primarily roads. Roads have altered channel morphology directly and can modify channel flow paths. This extends the drainage network into previously unchannelized portions of the hillslope. These modifications often result in fundamental changes in runoff and sediment dynamics, which can result in the degradation of aquatic habitat used by anadromous salmonids. "Certain impacts of forest roads on habitats used by anadromous salmonids are widely recognized and well understood.. .for example, road related erosion significantly increases chronic turbidity levels in streams" (LM Reid, PSW, Redwood Sciences Laboratory).

Our proposal focuses on reducing the impacts of these changes by modifying existing road location and design practices. These practices will promote the revegetation of riparian comdors, restore natural hillslope hydrology, and normalize sediment yield. The Forest Service San Dimas Technology and Development Center has assembled a series of publications that identify information and methods on hydrological aspects of developing, operating, and managing forest roads. This research on state-of-the-art water/road interactions has been instrumental in our assessment of options available to deal with site-specific problems in the three project watersheds. This research plus our own successful demonstration projects from Phase I funding within these watersheds, provides strong evidence that our proposal can and will reduce the amount of tine sediment entering our anadromous fisheries. The site-specific restoration project design and protocols will follow previously demonstrated restoration protocols, including the management of human activities, and will allow for a flexible adaptive management approach.

Our objective of aggressively treating known sediment sources and applying the best available science in these very important undammed streams on the Lassen National Forest, is to validate present assumptions that improving watershed management can best contribute to CALFED's ecological restoration goals.

b. Conceptual Model: Our work is based on precepts from three conceptual models with supporting site and watershed scale data from several sources. The models depict our understanding of ecosystem processes, restoration ecology and adaptive management. Data to develop our approach comes from published literature relating to watershed-fisheries interactions, and extensive data collection within the subject watersheds.

The models of ecosystems processes are depicted in figures A and B. The team developing the plan to monitor effectiveness of the Northwest Forest Plan (FEMAT) developed these models, which we adapted to more accurately describe processes in Mill, Deer and Antelope Creek watersheds. Figure A depicts landscape-aquatic interactions at a gross scale, and figure B at the watershed scale. Our watershed analysis paralleled this model, and summarized data for upslope, riparian/floodplain, stream channel and biotic conditions. Problem areas (those consequences found to have significant departure from historical conditions) during Watershed and other Analyses are in italics and highlighted in bold type. There is little uncertainty that these models accurately represent watershed processes. There is uncertainty as to the extent of change that will be realized in fish populations as a result of treating upslope problem areas, and the type, magnitude, and distribution of natural disturbance events that might trigger such a response.

Our projects reflect our rationale that a multi-scale approach to ecosystem restoration is essential. Though important goals are associated with the large spatial scale (improving and protecting anadromous habitat and strengthening system resiliency), actions to reach those goals are implemented at the site scale. Implementation of actions must be measured at the site scale, and effectiveness is best measured at this scale. As the spatial scale of analysis increases, cause and effect becomes harder to ascertain. Again, the limitations of our approach center on the problem of detecting change at the large scale, especially when considering the natural variation of effects and short monitoring periods.

The proposed work is supported by emerging models of watershed and ecological restoration (Williams, Wood and Dombeck 1997; and Kaufman, et al 1997). This model questions historic approaches of addressing sites or systems that are the in poorest condition. Instead, the focus is on restoring processes, and (based on large scale evaluations) giving priority to elements of the system that are in the best condition with the objective of solidifying such areas or habitats as anchors for recovery of systems or species.

Our final conceptual element is adaptive management. Many models, of varying complexity have been offered to depict and describe the concept, including that contained in the CALFED EIS/EIR Technical Appendix. Our approach is to monitor practices (and conditions) so that lessons learned can be used to refine strategies, priorities and restoration prescriptions.

The technical basis for the activities in this solicitation are the extensive analyses completed to assess anadromous fish resources of the Central Valley and intensive inventories of conditions and problems in the

Deer Creek watersheds. These intensive assessments include watershed condition reports prepared by the Deer and Mill Creek Conservancies, an analysis of road erosion in Deer and Mill Creeks completed by Meadowbrook Conservation Associates, and the Forest Service Watershed Analysis (WA) for Antelope, Deer, and Mill Creek. These analyses identified reduction of surface erosion as a top priority. The WA concluded there has been a shift in the erosion regime in the watersheds from one dominated by episodic mass wasting (occurring primarily in the unroaded portions of the watersheds) to one in which surface erosion chronically adds substantial amounts of sediment to the system. Road and stream surveys have concluded that roads are the primary source of accelerated erosion. GIS analysis of transportation system development in these contiguous watersheds indicate that the pulses of disturbances occurred over time, but disturbance has decreased over the past decade on public land, due to reduction in road densities. Roads have also been a cause of near-stream disturbance in these watersheds. "Once eroded sediment is transported to low gradient reaches of rivers and streams, it can persist for decades or centuries and continue to affect spawning and rearing habitat," (Lisle, 1981; Hagans and others, 1986; Madej, 12987; Frissell, 1993. Decommissioning of roads in near-stream locations will improve the function of these important areas, including recruitment of large wood, shading and nutrient and sediment storage.

Stream surveys in the watersheds have determined that generally, the habitat is in good condition though the upper reaches of both Mill and Deer Creeks have surface fines at higher than desired levels. Additionally, surveys have revealed that key habitat areas (the largest holding pools and pool tails that provide the most spawning habitat, are found at the lowest gradient stream locations. These locations have the lowest transport capacity, and are the most sensitive to changes in flow and sediment.

The basis for the meadow/riparian restoration projects is provided by stream and vegetation surveys that indicate a decline from historic condition. Stream channel dimension, pattern, and profile are used to establish baseline information on the type of channel and meadow conditions, which should exist. (Rosgen, Applied River Morphology) This helps to provide a desired condition for restoration. The basis for the interpretive and educational programs is found in the results of recently completed angler monitoring, and Conservancy Strategy and Existing Conditions Reports which outline the continued need to educate all of the stakeholders in the benefits of good watershed stewardship.

Our project has three primary ecological objectives. (1) Reduce sediment production and improve both near-stream (riparian) and watershed conditions on a subwatershed basis; (2) improve aquatic habitat conditions within the three watersheds; and (3) reduce harassment (and poaching) of spring run salmon in Deer Creek. All three objectives assume that though condition of anadromous habitat within the watersheds is generally "good" there is value in improving conditions and providing additional protection as insurance against fires, floods, spills and other disturbances which could affect these watersheds and the habitat they support.

c. Hypothesis Being Tested, Data Needed to Test Hypothesis, and Uncertainties Being Addressed

The primary stressors addressed by the projects and activities proposed for this solicitation are: 1. Excessive sediment delivery to aquatic habitats, 2. Human management activities that eliminate or degrade riparian habitat, and 3. Poaching or harassment of a priority species (spring-run chinook salmon). These stressors represent the hypothesis that roads, poor or inconsistent watershed and streamside management practices, and lack of public knowledge regarding watershed stewardship can cause habitat degradation or destruction, and contribute to the decline of sensitive species. We will be able to test this hypothesis by pursuing a suite of management actions designed to address specific problems. The management actions used to test the following hypotheses stem from careful and creative design, and integrate both passive and active adaptive restoration approaches.

Figure **A.-** Broad scale conceptual model for Lassen National Forest anadromous watersheds.

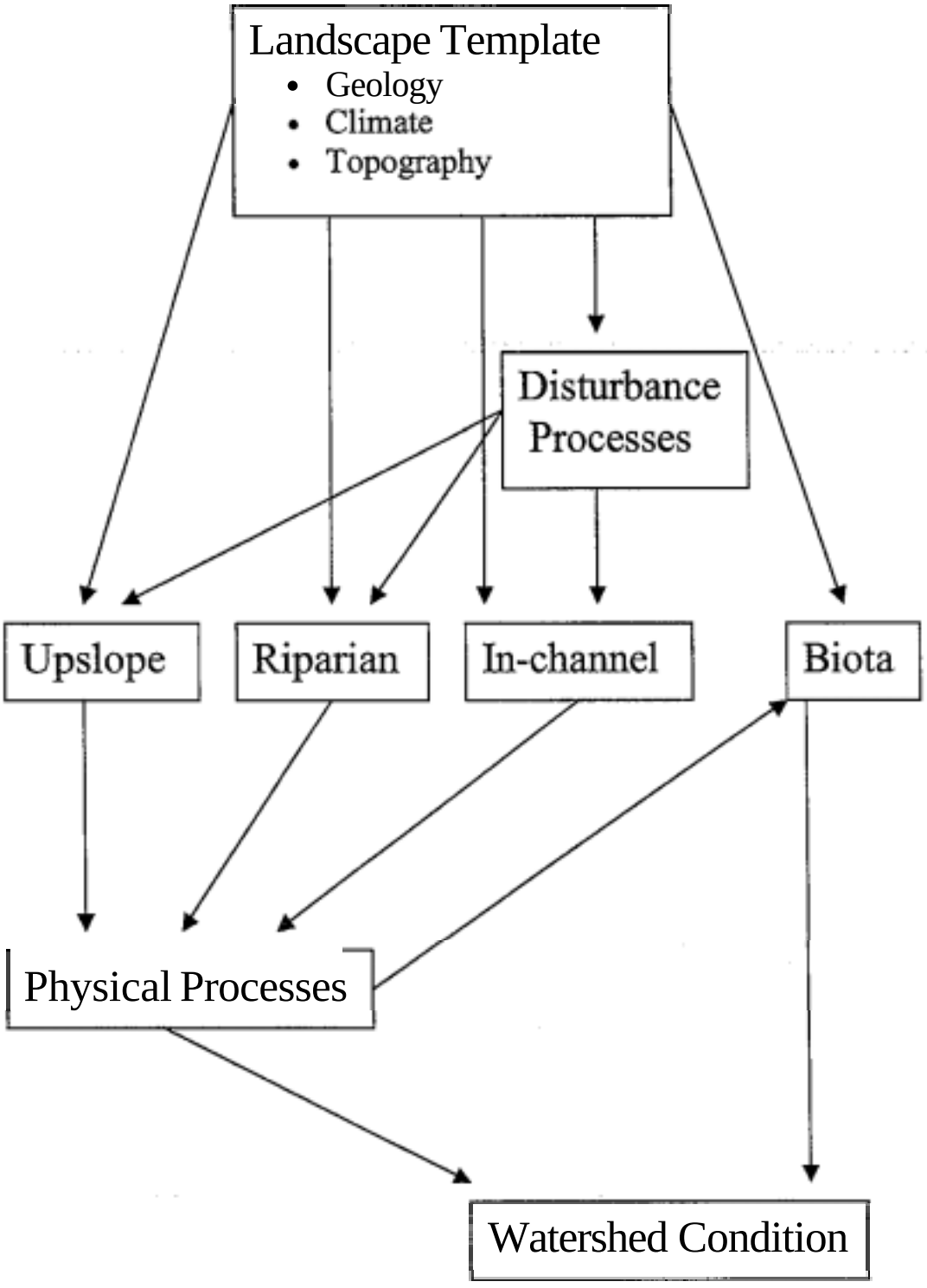


Figure B.- Conceptual model for Lassen N.F. anadromous watersheds adapted from Northwest Forest Plan Monitoring Strategy.

Ecosystem Process		Stressors		Consequences
General Processes	Key Processes	Natural	Human Induced	
Upslope				
Vegetative succession, growth, mortality	Wood production and transport	Fire, insects, pathogens	Forest mgt, grazing PACFISH RHCAs	Fragmentation debris and nutrient cycling
Soil cycle	Sediment production and transport	Mass wasting, erosion, debris flows	Road, mining & forest management	*Nutrient cycling soil moisture, formation rates sedimentation regime*
Hydrologic cycle	Water storage & yield	Precipitation flooding, drought	Roads, mining & forest management	*Changes in sediment timing, magnitude, water storage*
Riparian / Floodplain				
Vegetative succession, growth, mortality	Wood production and transport, seral stage, community structure	Fire, insects, pathogens, herbivory	Fomt mgt, grazing PACFISH RHCAs, herbivory	*Direct habitat loss, change in debris and nutrient cycling, changes in microclimate*
Soil cycle	Sediment production and transport, erosion, nutrient development. cycling	Mass wasting. erosion, debris flows	Road, mining & forest management, recreation	*Nutrient cycling soil moisture, formation rates sedimentation regime*
Hydrologic cycle	Water storage & yield	Precipitation flooding, draught	Roads, mining & forest management, recreation, grazing, diversion impoundment	*Changes in sediment timing, magnitude, water storage, temperature, toxins*
Energy exchange	Heat delivery	Insolation, shading	Forest management, Grazing	*Changes in microclimate water temperature*
Chemical/nutrient turnover	Chemical/nutrient delivery	Deposition, erosion Transport, storage	Forest management grazing	Changes in nutrient production, toxins
Stream Channel				
Hydrologic cycle	Water storage & yield	Precipitation flooding, drought	Roads, mining & forest management, recreation, grazing, diversion impoundment	*Changes in sediment timing, magnitude, water storage, temperature, toxins*
Energy exchange	Heat delivery	Insolation, shading	Forest management, Grazing	*Changes in microclimate water temperature*
Channel structure	Sediment & wood delivery Habitat formation	Scour, deposition, debris transport, channel migration	dredging, mining, grazing forest management, recreation	*habitat loss, change in stream channel form sediment regime*
Chemical/nutrient turnover	Chemical/nutrient delivery	Deposition, erosion transport, storage	Forest management grazing	Changes in nutrient production, toxins
Population dynamics	Community structure	Disturbance	Population/habitat manipulation	Changes in productivity
Biota (emphasis on anadromous fish)				
Reproduction spawning incubation emergence genetic intergrity	Temperature, hyphoretic flows, sediment/bedload transport & deposition straying (genetics)	Fooding, drought, erosion, spawning habitat reduction	Increased sediment regime revised flow regime, fish stocking, reduction in gravel recruitment	*Increased mortality. Reduction in redd production, genetic integrity, Changes in spawning distribution*
Survival growth rearing movement	Heat delivery, food availability, water quality and delivery, predation, wood recruitment	Flooding, drought erosion, pool depth and cover reducution	Roads, grazing, forest management, harrassment, poaching, toxic spills, pool depth reduction	*Reduced growth, increased mortality change in spawning/holding distribution*
Migration Out migration Adult escapement	Flows, temperature, barriers, predation, water quality	Drought, floods natural barriers, (debris flows & falls)	dams/barriers, flow diversion and alteration	*Reduced adult and smolt escapement*

The high level of uncertainty surrounding the dynamics of streams and stream/watershed interactions make testing these hypotheses difficult, and necessitates a mulit-scale monitoring strategy. See Table **4** for a *summary* of the data needed to test each hypothesis.

Hypothesis for Subtasks **1a** and 2a: Implementation **of** sediment control projects

- •Are restoration activities implemented as designed?
- •Are restoration activities effective in meeting site objectives?
- *Restoration activities result in improved watershed condition (at the subwatershed scale)
- *Reduction in accelerated surface erosion and improvement in near channel condition will result in improved aquatic conditions at the subwatershed (site of activity) scale.
- *Restoration activities result in improved aquatic conditions in anadromous fish habitat

Hypothesis for Subtasks 1c, 1d, and 2b: Interpretive sites and educational programs

*Public education, improved interpretation, and increased monitoring at recreational facilities will reduce the poaching of spring-run chinook and decrease the frequency of fishing violations,

Hypothesis and Data Needs for Subtasks 3a and 3b: Meadow assessment and demonstration projects

- *Are restoration activities implemented as designed?
- •Are restoration activities effective in meeting site objectives?
- *Reduction in accelerated surface erosion and improvement in near channel condition will result in improved aquatic conditions at the subwatershed (site of activity) scale.
- *Are sufficient meadow ecosystem processes intact that enable our ability to determine and restore the desired condition relative to meadow vegetation and stream channel type?
- •Restoration activities result in improved aquatic conditions in anadromous fish habitat

d. Adaptive Management:

The adaptive management approach is linked to the elements and stressors identified in the conceptual model. Treatments and activities are applied at the site scale. Conditions are measured at site, sub-watershed and watershed scales. Results from site scale analysis are immediately fed into planning and implementation of current and future projects. Feedback of information at the sub-watershed and watershed scales will occur as change (or lack of change) is detected. This information will be used to revise the broader scale restoration strategy, including types and locations of treatments and activities.

The proposed projects stem primarily from a watershed analysis, which identified key system processes producing conditions outside their historic range. Subsequent inventory and analysis has supported the analysis, in terms of correlating areas with high levels of watershed disturbance to less than desirable channel conditions as indicated by amounts of sediment and other attributes. These interactions are depicted well in the conceptual models.

The first model component, "Upslope" includes key processes such as wood production and transport, sediment production and transport, and water storage and yield. All of these processes are influenced by both natural events (precipitation, mass wasting, etc.) and anthropogenic stressors (roading, forest management, etc.). Our analysis has shown that some sub-watersheds, due to disturbance, are producing sediment at far greater rates (we estimate 7 times natural) than that which existing historically. Importantly, sediment production related to mass wasting is largely unchanged from the historic condition. The result is a shift in the sediment regime to one where infrequent inputs of sediment from mass wasting is overlaid by significant increases in "annual" sediment from chronic sources. The proposed action is designed to strategically treat sources of sediment, such

that at the sub-watershed scales, the sediment regimes (and flow regime) are much closer to their historic condition.

The second major components in the conceptual model are riparian areas and floodplains. As illustrated by the model, these areas are critical influences on channel condition. Not only do these areas serve as sources of wood and shade to stream systems, they moderate influence of the upslope processes by metering flow, and storing sediment and nutrients. In the present case, our inventories and analyses have shown that some near-stream areas are in very poor condition. This condition results in higher temperatures, revised runoff and nutrient regimes, and increased sediment inputs to channels. The plan is designed to improve the condition of damaged near stream areas so that the system functions to its historical condition.

Stream channel processes are depicted as the models third component. This element represents the greatest level of uncertainty, due to the highly dynamic nature of these systems and the biota they support. Our basic hypothesis is that the conceptual model represents the natural system. If this is true, then moving the upslope and riparian/floodplain functions and processes closer to their natural condition should result in channel processes that are also closer to their historic condition. Not clearly depicted in the model are the effects (and resultant uncertainty) associated with scale. We are certain that our actions will result'inimproved conditions at the site scale, where the upslope and riparian treatments will be implemented. We are fairly certain that these changes will be manifested in channels at the sub-watershed scale. Less certain are the effects at the watershed scale. As this anadromous habitat is provided primarily at this scale it warrants further discussion. There **is** little uncertainty that the actions will provide improved protection of the channel system and supported biota. This is critical. As the model depicts, channel condition (and supported biota) are a function of a complex interaction of natural and anthropogenic factors. A change in these factors (drought, flood, fire, climate change) will produce changes from the present system. The best insurance that the resources of critical concern (anadromous fish) are protected, is to provide a system that closely approximates the system in which the species evolved. We believe our proposed actions move the system closer to one which provides the resiliency found in the natural system. Further, (but with less confidence given the uncertainly of natural triggering events) we believe the actions will eventually result in improvement of the channel conditions at the watershed scale.

e. Educational Objectives: Our proposal includes an education component consisting of interpretive displays at recreation areas, interpretive signs at highly visible completed restoration sites, educational programs at the local elementary and high schools, and a watershed wide public outreach program. We feel that educating the public, fellow stakeholders, and our youth, on the principles of responsible watershed stewardship is essential to achieving the Forest's and CALFED's long term management objectives for the Bay-Delta system. Providing interpretive displays at highly visible restoration sites, and in recreation areas along Deer and Mill Creeks could be seen by thousands of Forest users each year. Displays will focus on responsible watershed stewardship practices and the importance of our anadromous fisheries resource. In addition to the displays, an Interpretive Specialist stationed at the Potato Patch Campground on Deer Creek will spend three months each summer presenting watershed stewardship awareness programs, and patrolling Spring-run spawning reaches. Hundreds of campers and fisherman will be introduced to watershed stewardship principles, the goals of CALFED, and the significance of Deer Creek's anadromous fishery. The school education program has the potential to reach hundreds of students who live and recreate in these anadromous watersheds. The program will not **only** cover watershed stewardship principles, but also includes on-the-ground restoration work and effectiveness monitoring program elements. All these educational activities will be coordinated by Education Outreach Director to ensure consistency of education and maximum public outreach.

2. Proposed Scope **of** Work

a. Location and/or Geographic Boundaries **of** the Project: The LNF watershed stewardship proposal is located within the Butte Basin Ecological Management Zone (7) and includes three restoration tasks within the anadromous watersheds of Deer (7.4) and Mill **(7.3)** Creeks in Tehama County, and Butte Creek (7.6) in Butte County (See Appendix B Vicinity Map).

b. Approach: The approach we have adopted has been to involve our partners, stakeholders and publics in the identification of problems, and the development of opportunities and management practices. Our 'hew" design and location standards for roads were developed by a technical committee that included participants from this diverse group. We incorporated the most current regulation, agency direction, research and techniques specific to restoration of watersheds. This effort produced a "Road Management Guide" which is our reference that will direct future research while providing an array of options and solutions to road related problems.

The proposed project is a combination of site specific measures applied at the sub-watershed scale. The approach is a combination then, of strategically selecting sub-watersheds for treatment, and then applying the appropriate measures at each to the site-specific problem areas. Criteria used to select the sub-watershed in which to work are described elsewhere in this document, but briefly, included the proximity to anadromous habitat, the amount of improvement that could be realized, the presence of other restoration activities, and the risk of diversion potential. At the site level, the approach is to develop designs that provide the greatest protection for the least cost, and have low need for maintenance. Previous CALFED funding assisted in development of a Road Management Guide, that provides support for road related restoration products. For road decommissioning, prescriptions are site specific. All prescriptions meet the intent of restoring the natural hydrologic function of the treated areas.

Construction procedures, equipment, and specifications are controlled by United States Department of Agriculture, Forest Service Specifications for Construction of Roads & Bridges. When designated in a Forest Service contract these specifications are binding on the parties signing the contract and become a part of the contract. Quality assurance is provided through the Forest Service contract inspection certification process under the supervision of Professional Civil Engineers, and other resource professionals as appropriate. The Lassen National Forest also has a road crew and Foremen that are very experienced in watershed restoration work, including road decommissioning.

Testing the hypothesis for the effectiveness of implementation of sediment control projects can be assured through the Forest Service contracting requirements and based on the depth and breadth of experience currently on the Forest. Sampling of current erosion rates associated with roads can be assessed using tools and protocol developed by San Dimas, Roads Water Interaction series. Erosion rates pre and post treatment can be calculated at the site scale. The Forest has developed a Non-Routine Biological Assessment for this restoration work as a requirement of PACFISH (interim direction to prevent the extinction or further endangerment of anadromous fish stocks...). Each individual site for treatment is consulted on with the National Marine Fisheries Service.

c. Monitoring and Assessment Plans: A key assumption of the approach (monitoring and restoration) is that bringing key ecosystem elements (surface erosion, hillside hydrology, near channel condition) closer to their natural condition will result in improved system health and condition. There are many alternative monitoring approaches. Alternatives we considered included modeling sediment production and emphasizing measurements at fewer spatial scales. Primary components of the proposed monitoring strategy are ongoing. Implementation and on-site effectiveness would be performed during this phase of the project (though effectiveness following large storm events would take longer). Watershed and aquatic condition monitoring would continue past this phase of the project.

This monitoring supplements and is complimentary to the long term monitoring efforts already established in the Deer and Mill Creek watersheds. The State Department of Fish and Game provides leadership for adult fish counts, and the Department of Water Resources currently collects water quality data. The two primary private timberland owners collect temperature data. Invertebrate sampling follows the State Rapid-Bio Assessment protocols. Samples are processed at the USFS Aquatic Analysis Lab in Logan, Utah.

Stakeholders, agencies and the Conservancies active in these watersheds will provide review of results. Those involved possess considerable expertise in fisheries, watershed, and water quality. Data will be presented annually. Implementation data will be used in the short term to revise ongoing or planned activities as necessary. Existing monitoring efforts provide a baseline for future monitoring activities. Data will be

compared to objectives for the project (site scale), in terms of trend over time (subwatershed condition, and aquatic condition), and to data from other comparable streams to further ascertain trend and condition (subwatershed aquatic condition). Over the longer term (10+ years) correlations between trends in watershed condition and aquatic condition will be made.

Table 4: Monitoring Parameters and Data Collection Approach for Assessment Plan: Lassen NF Upper Watershed Stewardship

Question to be Evaluated Hypothesis	Monitoring Parameter (s) and Data Collection	Data Evaluation Approach	Comments/ Study Priority
Are restoration activities implemented as designed?	Parameters are not identical for all projects, rather they vary by project, focused on the key activities. Key implementation questions are identified and tracked for each project. Monitoring occurs during project implementation, frequency varies by complexity of action.	Simple summary statistics (number of sites, # implemented, etc).	Priorities are: correction of problems during implementation, and transfer of findings to planning of future projects (e.g. through changes in contract specifications).
Are restoration activities effective in meeting onsite objectives?	Parameters vary by project. Response to high runoff events is required for channel/crossing projects. Where appropriate USFS sampling protocols for BMP effectiveness are employed. Soil Quality monitoring with emphasis on erosion: rilling, deposition, gullies, etc. are standard attributes. Sites will be monitored before and after implementation, then once every five years. Emphasis is on erosion, visual evidence of rilling, deposition, sloughing, etc. are standard criteria. Channel projects will be evaluated after large storms (duration will be long term)	Each project assessed individually. Annually, results from all projects will be summarized. Diversion potential and other sediment risk production activities will be assessed by comparing response in watersheds with treatments to those without treatments, following storm events	Priority is identification of site scale problems so results can be fed back into future designs and prescriptions
Reduction in accelerated surface erosion and improvement in near channel condition will result in improved aquatic conditions at the subwatershed (site of activity) scale?	Parameters vary by project, depending on project goals. Typically, in-channel monitoring will use USFS R5 Channel Inventory Protocols, and emphasize sediment in channel @article counts, pool tail fines, residual pool depths), and riparian recovery (temperature, shade). Number of measurements varies by attribute, sites will be monitored before and after implementation, then once every five years after major runoff events.	Results from monitoring reach will be compared before and after (long term) projects. Typically, mean and ranges of attributes will be displayed, and compared. Results will also be compared local and regional reference conditions.	Post activity sites will be added to ongoing PACFISH monitoring sites.

Table 4: Monitoring Parameters and Data Collection Approach for Assessment Plan: Lassen NF Upper Watershed Stewardship (continued)

Question to be Evaluated Hypothesis	Monitoring Parameter (s) and Data Collection	Data Evaluation Approach	Comments/ Study Priority
Restoration activities result in improved watershed condition (at the subwatershed scale)	Parameters include: road density, #channel crossings per mile, # crossings with diversion potential nearstream road density, nearstream disturbance, Equivalent roaded acres (%), and estimated road sediment production from selected crossings. Attributes are calculated using GIS layers, except for road crossing related erosion, which is estimated in the field using updated USFS protocols (baseline established by Meadowbrook Conservation Associates for Mill and Deer Creeks)	At five year intervals, parameters are collected (crossing erosion is collected during effectiveness monitoring). Results are compared to baseline, and trends are assessed.	Extend current PACFISH monitoring.
Do restoration activities result in improved aquatic conditions in anadromous fish habitat?	Sites within anadromous habitat are monitored annually to assess trend in attributes, which include particle counts and fine estimates at pool tails, residual depth and pool sediment lens length, wood, embeddedness, shade, temperature, and macroinvertebrates. Spawning surveys are conducted annually in these reaches. Holding survey counts of adult Chmook are conducted annually for each creek. All these elements are long term, and will be continued into the foreseeable future	Habitat measures are typically expressed as means (and range). Data from tributaries, main stem and site monitoring described above are used to assess activity effects. Comparisons also made to regional and local reference sites to gauge year to year and other "natural"variability	
Public education and improved interpret. and increased monitoring at rec. facilities will reduce the harassment of spring-run chinook, and decrease the frequency of fishing violations.	The number of fishing violations is tracked. Stream reaches near recreation sites are monitored for fishing activity and harassment during summer at heavy use and random times. Violations are tracked long term. "Harassment" monitoring will end when funds for this two year activity expire.	Results after implementation are compared with pre-project (1998-99) results	All monitoring elements are rated equally high in priority.

d. Data Handling and Storage:

All data collected will be stored electronically in Microsoft Word 2000 and Excel formats and made accessible to the public either through information requests or by accessing the Forest's website. Restoration site locations are currently on GIS layers and oracle databases are currently being developed to store all site inventory information. Monitoring forms specific to each restoration site will be stored electronically and updated annually. All meadow survey results will be published and made available on the website, as will any meadow demonstration project implementation protocols, adaptive management strategies and monitoring results.

e. Expected **Products/Outcomes:**

Results will be presented in: Annual monitoring reports, a Final Completion Report, and Publication of key results and findings in Region Five Forest Service Fish Habitat Relationships Program publication "Currents". In addition, we are planning to submit documentation and results of this project to The Engineering Management Series. This periodical is published as a means of exchanging engineering-related ideas and information on activities, problems, and solutions that may be of value to engineers servicewide. Also, this documentation will be offered to San Dimas Technology and Development Center as a case study for the Water/Roads Interaction Technology Series. Pictures and descriptions of restoration work will be featured on the Forest internet and intranet web sites, and in Watershed Conservancy publications.

We will also utilize our working group and the Conservancies to plan and present field trips to display and discuss effectiveness of treatment measures. Target audience will be our partners in the subject watersheds, and watershed managers in other areas.

f. Work Schedule: The start and completion dates, deliverable, and budget, for each task are shown in Tables 1-3. All task activities are scheduled for completion between 2001 and 2003. Because most of the Tasks involve implementation work, payment would be made when a task or activity has been successfully completed.

Several activities could be incrementally funded if allowances could be made to extend the initial completion dates. Planning, design, consultation, and environmental documentation will be completed for the majority of the road restoration work by 2001. Actual implantation could be extended beyond two years without any additional NEPA being required. Implementation of the demonstration projects associated with Colby Meadows could also be incrementally funded.

g. Feasibility: The activities of this proposal address the most pressing issues of the upper watershed that of reducing sediment stressors, and restoring near stream conditions and processes. Subtasks 1a and 2a, Extensive Erosion/Sediment Control Projects Within Deer and Mill Creeks, link directly to our 1997 CALFED grant #1425-98-AA-20-16210 which funded the identification of project sites, design of improvements, and environmental analysis of proposed activities. The selection of these Phase II projects is a result of a completed watershed assessment, a roads inventory, and site-specific engineering evaluations. The selection also represents a coordinated effort among the LNF, Watershed Conservancies, and other stakeholders to identify the highest priority restoration activities consistent with CALFED's objectives. The proposed restoration treatments have proven to be effective in reducing the delivery of fine sediments to streams and/or reducing the risk of road-related stream crossing failures. Building and sharing restoration databases, public awareness and education, and understanding meadow function are additional benefits. Because a large portion of the NEPA analysis is underway, and the projects have the support of the public, Conservancies, and other stakeholders, full implementation is expected to be completed by the end of 2003.

The completion dates do allow for the following exigencies: consultation procedures with the National Marine Fisheries Service, the Forest Service's impending revisions to it's transportation management policy, and the Agencies need to expand it's public involvement, especially in the area of road management decisions. We have completed a Biological Assessment for Non-Routine road maintenance which has streamlined our consultation process with NMFS, have incorporated the impending road policy revisions into our current analysis for Deer and Mill Creeks, and have developed a new strategy to better involve the public in our roads management process

D. Applicability to CALFED ERP Goals and Implementation Plan and CVPIA Priorities:

1. ERP Goals **and** CVPIA Priorities.

This Phase II grant proposal addresses the Area of Ecosystem Quality and addresses three ERP Goal statements: Goal 1; the recovery of at-risk species and stabilizing the populations of other native species, Goal 2; the rehabilitation and maintenance of ecosystem functions, and Goal **4;** the protection or restoration of functional habitat types for public values. Restoration work is targeted to benefit at-risk species of chinook salmon and Steelhead trout as well as populations of other declining native species.

The Butte Creek Meadow Project includes both targeted research and demonstration projects. The task will help meet Target 7 under Ecological Processes found on page 267 of the ERP. Target 7, Stage 1 Action states "In conjunction with the Butte Creek Conservancy and local, state, and federal agencies, develop and implement elements of a watershed management plan to enhance base flows, reduce the transport of fine sediment into the creek channel, and protect and restore riparian habitat." More specifically, the inventory and assessment will help to define a range of natural variability within the meadow ecosystem **and** then examine opportunities to restore ecological processes that would allow this ecosystem to be more self-sustaining and resilient to severe natural events.

The Deer Creek road restoration projects will help meet Target 7 under Ecological Processes found on page 267 of the ERP. Target 7, Stage 1 Action states "In conjunction with the Deer Creek Watershed Conservancy and local, state, and federal agencies, develop and implement elements of a watershed management plan to increase the summer base flows, reduce the transport of fine sediments into the creek channel and reduce the ecological risk associated with catastrophic events." The projects also support recommendation 2C, from the Deer Creek Conservancy Watershed Management strategy to aggressively treat known sediment sources. The strategy is to "encourage" road maintenance standards for minimum siltation on all public and private dirt roads within the watershed." More specifically this Task will help to preserve and restore the remnants of the original systems where natural processes and system dynamics are allowed to function, and large-scale functioning examples of this "original" ecosystem remain.

The Mill Creek road restoration projects will help meet Target 7 under Ecological Processes found on page 267 of the ERP. Target 7, Stage 1 Action states "In conjunction with the Mill Creek Watershed Conservancy and local, state, and federal agencies, develop and implement elements of a watershed management plan to reduce the transport of fine sediments into the creek channel, enhance base flows and to protect and restore riparian habitat." The projects also support objectives A-D of the Mill Creek Watershed Management Strategy which focus on education, development of water quality and aquatic monitoring programs, implementing projects designed to protect water quality and aquatic resources, and involving all stakeholders in verifying watershed conditions and areas of critical concern. This task will meet the same specific goals as the Deer Creek Task.

2. Relationship to Other Ecosystem Restoration Projects.

A portion of this solicitation, namely the extensive sediment reduction/stabilization activities, proposed within Deer and Mill Creek watersheds, represents Phase II of the Forest's 1997 grant, (1425-98-AA-20-16210) "Watershed Improvement: Stabilization of potential sediment sources within the Deer, Mill, and Antelope Creek watersheds on LNF lands." Phase I of the 1997 grant included the identification of the problem, conceptualizing the problem, developing hypothesis, and testing the hypothesis through research and implementation and monitoring of demonstration projects. The Forest updated and expanded existing sediment source inventories, compiled engineering evaluations and research to address the problems, prioritized treatment sites, and implemented several demonstration projects. We have also completed much of the planning and consultation work required prior to implementation work on over 200 sites identified for restoration work within the Deer, Mill, and Antelope Creek watersheds. The Phase I work, scheduled for completion in December 2000, will take the LNF through three important decision the nodes in adaptive management process,

setting the stage for the initiation of on-the-ground restoration actions in Phase II. The interpretive signing and education Tasks are stand-alone programs designed to promote widespread understanding and support for watershed stewardship practices. Each program will be designed to expand throughout all of the Forest's watersheds. The meadow assessment task represents a Phase 1 action that combines targeted research and demonstration projects. Phase II would initiate larger scale implementation actions in Colby Meadow as well as other meadows throughout the Forest.

3. Requests for Next Phase Funding. See Appendix C.

4. Previous Recipients of CALFED Funding.

The Forest received a $371,000 CALFED grant in 1997 titled; "Watershed Improvement: Stabilization of potential sediment sources within the Deer, Mill, and Antelope Creek watersheds on LNF lands" (1425-98-AA-20-16210). See Appendix C for a summary of this proposal and its current status.

5. System-Wide Ecosystem Benefits.

Our proposal compliments numerous concurrent restoration efforts in the target watersheds that provide system wide benefits. Watershed Analysis (Forest Service) and Watershed Condition Reports prepared by the conservancies provide watershed scale restoration priorities, and compliment broader scale system evaluations of the condition of anadromous fishery resources in the Bay Delta system. Ongoing and planned restoration efforts target the priority needs identified in these broad, and watershed scale evaluations.

In the lower Deer and Mill Creek watersheds, changes in flow regime that impede migration of anadromous fish species have been identified as a problem and aggressively pursued by the Conservancies, landowners and responsible agencies. Other efforts are underway in the lower watershed to study, and address as necessary, changes to flooding regimes caused by levees and other flood control structures. These actions are intended to provide fish with access to habitat.

Coordinated efforts in the upper watersheds are intended to improve protection of, and quality of the habitat. These efforts include both passive (revised management) and active restoration (treatment of problem areas) approaches. Examples of revised management include excluding cattle from sensitive riparian areas (Forest Service and Collins Pine), implementation of improved forest practices on private timberlands, and improvement in road maintenance procedures. Examples of active restoration include road treatments related sediment by Collins Pine Company and the Forest Service, road decommissioning (Forest Service) and treatment of other areas high sediment production areas. Planned restoration activities include treatment of additional road segments on Collins and Forest Service lands through a Fish and Wildlife Federation Grant (targeted in Upper Deer Creek subwatersheds) and treatment of a sensitive stream reach on Forest Service land through a grant to the Vina Resource Conservation District. These efforts are coordinated through the conservancies and task groups. A key part of the restoration effort involves increased public education (part of this grant proposal and ongoing efforts) and enforcement of regulations. Education efforts are directed at both schools (Chester and Los Molinos) and recreationists. Increased presence by law enforcement is aimed at reducing both harassment and poaching of Spring-run salmon. Finally, efforts are monitored to supply information such that an adaptive management approach can be applied.

E. Qualifications:

The Lassen National Forest has a staff of well-qualified and experienced resource professionals. The key staff that would provide oversight for project planning and implementation would include fishery biologists, hydrologists and engineers with support from archaeologists, wildlife biologists, botanists, foresters, contracting specialists and fiscal administrators. This same team has been involved for the past 2 ½ years planning, implementing, and monitoring restoration work, which was made possible in part by a 1997, CALFED grant.

Members of the group have extensive experience in watershed restoration and first hand knowledge of the subject watersheds. In addition to the existing staff, support by other qualified resource professionals is available from other Forests, the Pacific Southwest Research Station, the San Dimas Technology and Development Center, through service contracts, and volunteer programs to assist in project planning, data collection and analysis, design, implementation, and adaptive management.

The Lassen National Forest has heightened its role in the coordination of watershed management planning and implementation efforts with the Battle, Butte, Deer, and Mill Creek Watershed Conservancies, Sierra Pacific Industries, Collins Pine Company, State and local agencies, and other stakeholders by committing several resource professionals to the task. We view all the collaborators and supporters as ongoing participants in the areas of project planning and implementation, especially where there are mutual interests and needs (e.g. cost-share roads). As a result of our initial partnership efforts, new partnerships and collaborative efforts are being developed, expanding the reach, understanding, and effectiveness of watershed restoration efforts. The Lassen National Forest received the Forest Service's National Stewardship Award in 1999 for its watershed restoration accomplishments.

Lassen National Forest, Almanor Ranger District Staff, Positions **and** Qualifications

Ken Roby — District Fisheries Officer. B.S. Conservation of Natural Resources, M.S. Aquatic Ecology. Two years as Fisheries Biologist, East Bay Regional Parks. Twenty one years with Forest Service including Fisheries, Hydrology and Resource Officer positions (Six Rivers, Plumas Lassen, and PSW-Albany). Experience in program planning, watershed restoration and monitoring. Ken will prepare biological assessments, develop monitoring plans, and supervise the collection and analysis of fisheries monitoring data. He will be a key member of the forests adaptive management team.

Howard Brown — Forest Fisheries Biologist B.S. Fisheries Management. Three years as Fisheries biologist following numerous years as seasonal fisheries biologist on the Lassen and Six Rivers National Forests. Experience in stream and fisheries monitoring, inventory and assessment of fisheries habitat condition. Skilled in data analysis and evaluation and computer applications. Howard will review biological assessments, help develop and conduct monitoring plans, and prepare biological assessment tiering forms.

Diane Watts — District Archaeologist. B.A. Anthropology, M.A. Anthropology. Twenty three years as an Archeologist. Diane will supervise the completion of all heritage resource site evaluations that are required prior to the initiation of any ground disturbing restoration work. She will recommend mitigation measures, and provide all required documentation for EA's and the State Historical Preservation Office.

Mark Williams — District Wildlife Biologist. B.S. Wildlife Management. Seven years experience as wildlife biologist, three years experience in botany. Other experience in fire management, silviculture, and timber sale administration. Mark is responsible for completing all the required reports, Biological Evaluations and consultations with Federal and State agencies prior to on-the-ground restoration activities.

Greg Napper — Transportation Planner/Engineer. B.S. Civil Engineering. 22 years with the Forest Service with experience in all aspects of Road Engineering including, reconnaissance, design, operations and maintenance. Road Manager for 15 years (Stanislaus), with experience in planning and implementation of a variety of road projects. Have acted as District CALFED Project Engineer for the past two years. Greg is responsible for engineering field evaluations and will supervise the implementation of road-related restoration work. He will also be responsible for monitoring the performance of restoration work and initiating our adaptive management strategy.

Russ Volke District Silviculturist B.S. Forest Watershed Management. Ten years in Forest Management on the Gila National Forest and ten years in Timber Management on the Lassen National Forest Service. Certified Silviculturist since 1985. Experience in writing riparian restoration vegetation management prescriptions. Have acted as District CALFED Coordinator for the past two years. Russ is responsible for assembling all the required environmental documentation needed to implement restoration work. He is also responsible for building and maintaining collaborative partnerships with the Watershed conservancies, private landowners, and the general public.

Carolyn Napper District Watershed Staff Officer. B.S. Marketing, M.S. Soil Science. Two years as a Private Agricultural Consultant, 8 years as District Watershed and Range Staff Officer on the Stanislaus and Lassen N.F., and three years as a forest Soil Scientist on the Stanislaus and Lassen N.F. Experience in planning, design, and implementation of watershed restoration practices for road decommissioning, road relocation, landing restoration, campground improvements, meadow restoration, and channel stabilization. Carolyn is responsible for the preparation of all supporting documents including cumulative watershed effects analysis, and monitoring plans and will also supervise the collection and analysis of all soil and water monitoring information. She will also be **part** of the adaptive management team.

Melanie McFarland Forest Fisheries Biologist. B.S. Fisheries. Five years of seasonal fisheries experience working for private organizations, consultants and the California Department of Fish and Game. Three years as Fisheries Biologist with the U.S. Fish and Wildlife Service. Nine years as Forest Fisheries Biologist (Lassen). Experience in program planning and implementation. Melanie will be responsible for consultations with National Marine Fisheries Service and reviewing environmental assessments and biological Assessments.

Jess Bengoa Acting Forest Engineer M.S. Civil Engineering. Registered Civil Engineer in the State of California. Twenty two years with the Forest Service in all engineering disciplines including roads, bridges, dams buildings, water & sewer systems etc. Jess will supervise all engineering field evaluations, design specifications, and implementation work.

Beth Corbin Forest Botanist B.S. Botany, M.S. Botany/Plant Ecology. Forest Service experience as fuels and forestry technician. Nine years as Forest Botanist (Lassen). Experience in recommending and collecting native plant species for revegetation projects. Beth will complete all sensitive plant surveys and provide guidance on noxious weed control policies.

Elaine Courtright Forest Chief Financial Officer Associate of Arts and three years college course work. Ten years of accounting and business administrative experience in private sector. Twenty one years of accounting and business administrative experience in Forest Service which includes eight years as Forest Budget & Accounting Officer. Elaine will administer all the financial accounting and billing procedures for the grant.

Miley Sutherland Forest Contracting Specialist. B.S. Forestry, M.S. Business Administration. Contracting Officer for ten years with the Forest Service, and six years with the USDA Animal and Plant Health Inspection Service. Miley will supervise the preparation of all service contract restoration packages and serve as the Forest's Contracting Officer for each project.

F. Cost

1. Budget: Budget costs for the proposed tasks and subtasks are summarized in Tables 5-7. The requested CALFED funding to complete all tasks and subtasks as detailed in the table is $849,845. The emphasis of this funding request is on implementation of erosion control and habitat restoration work designed to benefit priority species (principally, spring and fall-run chinook salmon, and steelhead trout). Tasks and subtasks are severable to respond to lesser funding amounts. Much of the work is also designed to educate the public and other

stakeholders in the principles of good watershed stewardship, and how they can help to achieve the CALFED objectives.

2001 CALFED Proposal Budget Summary

Task	Year 2001 Budget	Year 2002 Budget	Year **2003** Budget	Total
1. Deer Creek	$97,290	$195,265	$202,135	$494,690
2. Mill Creek	$45,830	$81,825	$85,905	$213,560
3. Butte Creek	$4,800	$35,200	$45,800	$85,800
Project Management	$11,160	$22,320	$22,315	$55,795
Total	$141,080	$313,610	$335,155	$849,845

The following discussion describes how each cost column of each PSP Budget Table is determined and what type of work is included in the cost estimates. To clarify the following discussion, a summary description *of* each subtask is described below.

1a - Implementation of road-related restoration activities such as upgrading crossings, eliminating diversion potential, road decommissioning, and constructing ford crossings in Deer Creek.
1b – Construct and install interpretive displays at four recreation areas along Deer Creek.
1c - **A** Potato Patch Campground host will be established to lead education programs and patrol anadromous reaches near the campground to report fishing violations and harassment and poaching of holding Spring-run chinook salmon.
1d - Initiate a two year Watershed Stewardship program in the Chester School system.
2a - Implementation of road-related restoration activities such as upgrading crossings, eliminating diversion potential, road decommissioning, and constructing ford crossings in Mill Creek.
2b – Construct and install interpretive displays at four recreation areas along Mill Creek.
3a – Within Butte Creek watershed, conduct a Colby Meadow condition assessment.
3b - Plan and implement some Colby Meadow restoration demonstration projects.

Direct Labor Hours: This figure represents the total number of hours that **a** group of Forest Service employees is expected to spend accomplishing the specific Subtask. For Subtasks 1a, and 2a, 90% of the direct labor hours involve implementation work, and 10% represent final planning efforts. For subtasks 1b and 2b, 100% *of* the direct labor hours involve the construction and installation of the interpretive displays. For Subtask 1c, patrolling represents 90% and campground education presentations represent 10% of the direct labor hours. For Subtask 1d all labor hours are associated with planning. For subtask 3a, 75% of the hours are attributed to the preparation of the meadow assessment plan, and service contract, and 25% to in-house meadow inventory and assessment field work. For Subtask 3b, 20% of the hours are attributed to planning, and 80% to implementation.

Salary and Benefits: The salary estimated represents the average of several levels of Forest Service employees necessary to complete the task or subtask. For Subtasks 1a and 2a, 80% of the salary costs are attributed to equipment operators and laborers involved in the implementation work, 10% is attributed to quality control and implementation monitoring, and 10% is attributed to final planning efforts. For Subtasks 1b and 2b, 100% of the salaries are attributed to the construction and installation of the interpretive displays. For Subtask 1c, 100% of the *salary* is attributed to a campground host/patrol person for two summer seasons. For subtask 1d, 100% of the salary is attributed to planning and organizing efforts. For Subtask 3a, 75% of the salary is attributed to the preparation of the meadow assessment plan, and service contract, and 25% to in-house meadow inventory and assessment field work. For Subtask 3b, 20% of the salary estimates **are** attributed to planning, and 80% to implementation work.

Supplies and Equipment: These costs include the materials and equipment needed to accomplish a Subtask that has not been accounted for in a service contract. For Subtasks 1a and 1b, **75%** of the estimated costs are

attributed to equipment and 25% to construction materials including concrete, paving mix, culverts, and aggregate surfacing material. For Subtasks 1b and 2b, 100% of the estimated costs are attributed to construction materials for the interpretive displays. For Subtask 1c 100% of the costs are attributed to the assembling and printing of educational materials. For subtask 1d, 75% of the costs are attributed to educational materials, and 25% to field equipment to be used for research, implementation, and monitoring of restoration exercises. For Subtask 3a, no allowance for any equipment or supplies is being asked for. For Subtask 3b, 75% of the estimated costs are attributed to equipment and 25% to materials. Cost estimates for 3b are difficult to itemize at this point in the analysis, as the scope of work within 3b is dependent on the results of 3a.

Agreements: These costs include all salary, travel, and office expenses for the Education Outreach Coordinator, and all the instructor salaries, instructional materials, and transportation costs associated with the Chester School System Watershed Stewardship Program. For subtask 1d, 60% of the costs are attributed to the Education Outreach Director and instructor salaries and 40% for materials and field trip travel expenses.

Overhead Costs: The Lassen National Forest assesses an overhead cost of 20%. Included in the overhead are salaries, supplies, equipment, and Cost Pool items including, office management, agreements management, utilities, phones, and property rent. Overhead costs are not assessed to service contract work.

Service Contracts: The estimated cost represents the total time, salary, and any materials required of a contractor to complete a Subtask or portion of a Subtask. For Subtasks 1a and 1b, 75% of the road restoration estimated costs are attributed to equipment and equipment operators, and 25% to construction materials including concrete, paving mix, culverts, and aggregate surfacing material. For Subtask 3a, 65% of the cost is attributed to field data collection, and 35% attributed to the completion of the meadow assessment plan, and service contract. For Subtask 3b, 75% of the estimated costs are attributed to equipment and equipment operation, and 25% to materials.

Project Management: These costs include the coordination of all Task activities both internally and externally, inspection and evaluation of work activities, managing budgets, preparing and submitting progress reports, administering agreements, and handling day to day project correspondence. For all the Subtasks 70% of the costs are attributed to project implementation and 30% attributed to managing budgets and agreements, submitting progress report, and handling daily correspondence. Due to the increased complexities associated with partnership coordination, encouraging public involvement, and gaining widespread support for proposed restoration activities from those publics who may be affected, as much as 35% of the Forest's approved cost share contribution of $492,000 is expected to allocated to project management.

Total Cost: Includes all funding requested of CALFED necessary to accomplish a task activity. The Forest's approved and tentative cost share contributions are listed under Cost Sharing.

2. Cost Sharing. Available and approved funding that the Forest to expects to receive over the next three years to support this watershed stewardship proposal is $492,000. This approved funding represents 58% of the total grant request. Tentative additional contributions are also expected as the Forest is continually seeking funding to accelerate its programs in watershed and fisheries improvement, sediment/erosion control, road inventory and engineering evaluations, and watershed restoration implementation work within all five of it's anadromous watersheds. Tentative funding is expected to raise the Agency's match to 75%. External funding contributions can be instrumental in helping the Forest receive additional Agency funding. We believe that the 1997 Phase I CALFED of $371,000 was instrumental in the Forest successfully competing for and receiving $455,000 that was used in 1999 to accelerate restoration work within Deer, Mill, and Battle Creek watersheds and the Forest has been able to double its initial stated approved contributions for the 1997 grant.

The approved $492,000 three year funding is divided as follows:
Awards: $25,000 Chiefs National Stewardship Award which the Lassen National Forest received for its outstanding watershed restoration accomplishments in 1999.

Fisheries Budget: *$50,000* for three years, totaling $150,000, for planning, consultation, 30% of the Program Management portion of the grant proposal, and implementation work.
Hydrology Budget: *$50,000* for three years, totaling $150,000, for planning, consultation, 30% of the Program Management portion of the grant proposal, and implementation work.
Recreation Budget: $12,000 one time contribution for interpretive displays.
Engineering Budget: $10,000 for three years totaling $30,000 for road inventory work, site evaluations, and inspections and implementation monitoring.
General Budget: $4,000 for three years totaling $12,000 to support the school system watershed programs.
Supplemental watershed Improvement funds: *$50,000* committed to the restoration of a Mill Creek crossing site, $25,000 committed to road restoration work, and $50,000 committed to rocking roads within Deer and **Mill** Creek watersheds.

The Forest continues to focus a team of resource professionals on accelerating our watershed restoration program. The Team has tried to strengthen its role in the coordination of watershed management planning and implementation efforts with the Battle, Butte, Deer, and Mill Creek Conservancies, Collins Pine Company, Sierra Pacific Industries, CALTRANS, other Federal, State, and local agencies, and other stakeholders.. The time donated by many of these partners assisting us in the areas of planning, research, education, and project implementation has been invaluable. The Forest would not have received almost unanimous public support for the implementation of restoration work without the support of these partners. The contribution of time alone from those groups who have agreed to support all or specific proposed tasks will easily reach $50,000 over the three year project period. See Appendix A to view the list of Participants, Collaborators, and Supporters.

G. Local Involvement:

After developing preliminary proposals with the watershed Conservancies and other interested stakeholders, a letter outlining our planning activities was sent to the Butte, Plumas, and Tehama **County** Boards of Supervisors and Planning Departments. These six entities were also notified of *this* formal proposal prior to this submittal. Copies of the notification letters are in Appendix E.

A list of the major participants and collaborators and supporters for *this* project proposal is included in Appendix **A.** The Forest has developed strong working relationships with the Battle, Butte, Deer, and Mill Creek Conservancies, the two principal landowners, Sierra Pacific Industries, and Collins Pine Company, CALTRANS, and the Chester School System. Members of these groups, as well as the State Department of Fish and Game, Department of Water Resources, the U.S. Fish and Wildlife Service, private consultants, and interested publics all contributed to the development and prioritization of the proposed tasks and activities included in this solicitation. Individual letters of support are in Appendix D.

To encourage public participation and ensure public outreach, the Forest has developed a public scoping list, which includes all parties who have expressed an interest in watershed restoration activities, or who could potentially be affected by any of the proposed projects. We have conducted public meetings and made informal contacts to help us assess the potential issues and conflicts. To date we have found no one opposed to doing watershed restoration work when the work does not significantly reduce or eliminate public access. **Our** plan is to expand our outreach program with the help of the Educational Outreach Director, the schools, and our partners to provide more public education and more public participation in our watershed restoration planning efforts. With increased public participation, we hope to develop publicly acceptable restoration proposals and make informed decisions that accurately display trade-offs and consequences. There will be trade-offs and third party consequences for some restoration activities at the site scale. Potential third party impacts could include the loss of vehicle access to some roads, trails, and recreational facilities that may be closed or decommissioned to meet the objectives of the proposal. These decisions will not be made without public involvement.

It is our goal that through public and stakeholder involvement and education, timely, fully mitigated restoration proposals can be successfully implemented that result in improved upper watershed ecosystem health. The

collective stewards of the upper watersheds believe their restoration work can make a significant contribution to the CALFED mission of improving ecosystem health and re-establishing a balance in ecosystem function to meet the needs of plant, animal, and human communities.

H. Compliance with Standard Terms and Conditions:

The United States Forest Service will comply with all applicable State and Federal terms listed in Attachments D and E.

I. Literature Cited:

Literature citations are listed in Appendix F

J. Threshold Requirements:

The Letters of Notification, Environmental Compliance Checklist, and Land Use Checklist are in Appendix E. No Federal contract forms are required to be submitted with this proposal. Forms 4099n (Additional Standard Clauses) and 4247 (Contracts with the United States) will be submitted as required before or at the time of final contract award.

Appendix A

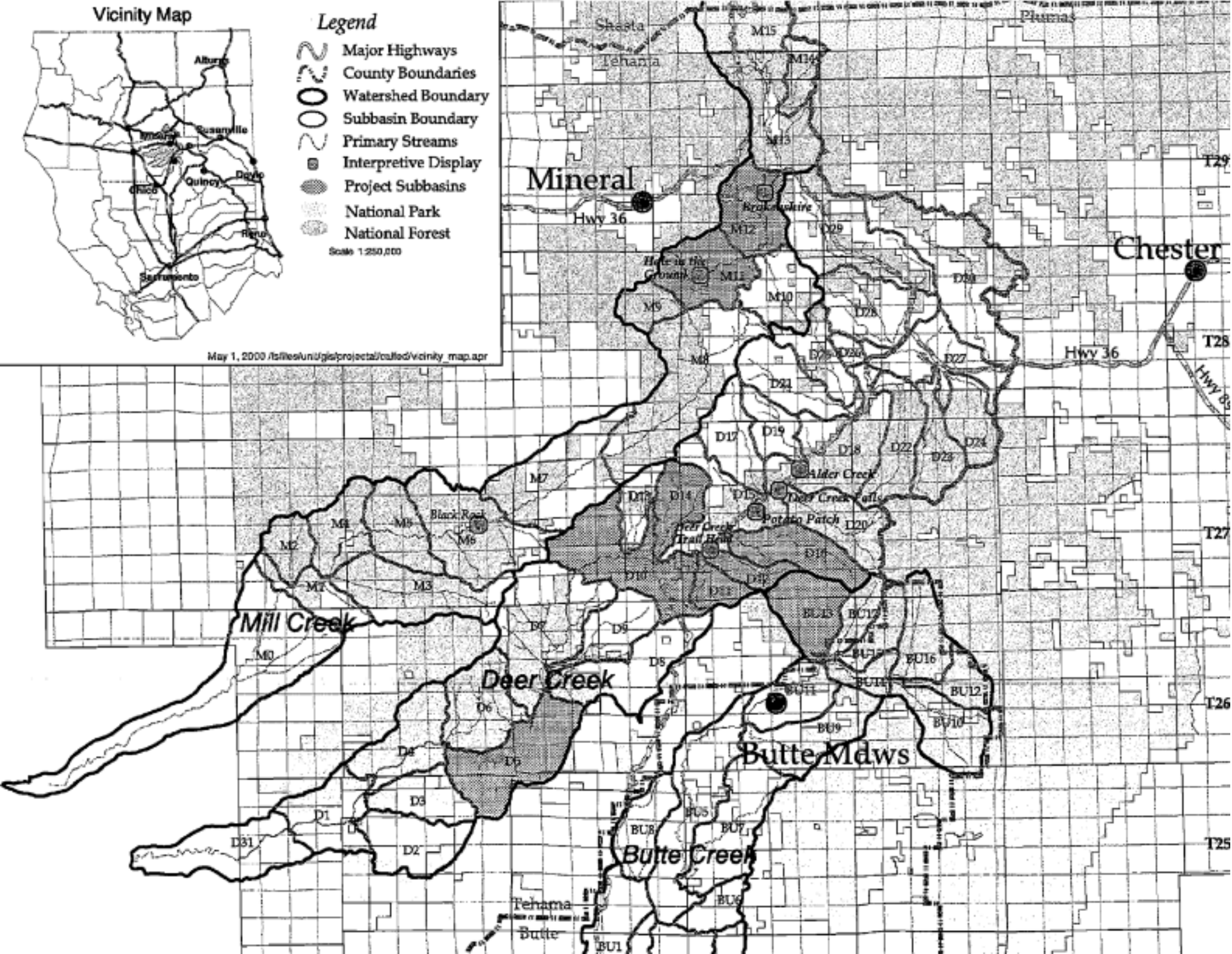
Participators, Collaborators, and Supporters

Participators, Collaborators, and Supporters

Participants/Collaborators In Implementation of Tasks	Deer Creek Task 1	Mill Creek Task 2	Butte Creek Task 3
Deer Creek Watershed Conservancy	✓	✓	✓
Mill Creek Watershed Conservancy	✓	✓	✓
Butte Creek Watershed Conservancy	✓	✓	✓
Battle Crk. Watershed Conservancy	✓	✓	✓
Big Chico Creek Watershed Alliance	✓	✓	✓
Collins Pine Company	✓	✓	
Sierra Pacific Industries	✓	✓	✓
Meadowbrook Conservation Assocs.	✓	✓	✓
CALTRANS	✓	✓	
Plumas County Road Department	✓		
California Dept. of Water Resources	✓	✓	✓
National Marine Fisheries Service	✓	✓	✓
California Dept. of Fish and Game	✓	✓	✓
Private Landowners	✓	✓	✓
Butte County Board of Supervisors			✓
Butte County Planning Dept.			✓
Tehama County Board of Supervisors	✓	✓	
Tehama County Planning Dept.	✓	✓	
Plumas County Board of Supervisors	✓		
Chester Elementary School	✓		
Chester High School	✓		
Lassen Volcanic National Park	✓	✓	✓
Vina Resource Conservation District	✓	✓	✓

Appendix B

Vicinity Map


Vicinity Map
Legend
Major Highways
County Boundaries
Watershed Boundary
Subbasin Boundary
Primary Streams
Interpretive Display
Project Subbasins
National Park
National Forest
Scale 1:250,000
Alturas
Susanville
Chico
Quincy
Reno
Sacramento
May 1, 2000 /fs/files/unit/gis/projects/called/vicinity_map.apr
Shasta
Tehama
Plumas
Mineral
Hwy 36
Chester
Hwy 89
Alder Creek
Potato Patch
Black Rock
Mill Creek
Deer Creek
Butte Mdws
Butte Creek
Tehama
Butte
T29
T28
T27
T26
T25

Appendix C

Phase I *Summary* and Status

Summary of Lassen National Forest 1997 CALFED Grant

Title: Watershed Improvement: Stabilization of potential sediment sources within Deer, Mill, and Antelope Creek watersheds.

Agreement Number: 1425-98-AA-20-16210 Contract Term: 3/10/98 – 12/31/00

Description: The project proposal was designed to be accomplished in two phases. This first phase proposal consisted of three tasks: (1) Implementation of demonstration erosion stabilization projects at known problem sites, (2) Inventory, design, and planning for large scale erosion stabilization projects for the remaining road-related problem sites, and (3) Identification of key riparian parcels and any willing sellers or private parties interested in land exchanges.

Scientific Merit: The hypothesis of the project is that by reducing accelerated surface erosion and restoring natural flow regimes at the site scale, benefits to aquatic resources will be realized at the sub-watershed, and eventually, watershed scales. These benefits include increased protection, improved watershed resiliency and improved habitat conditions. The connection between watershed condition and habitat condition is well established in the scientific literature, though often difficult to measure due to variations in precipitation, triggering mechanisms and site sensitivity. The project also reflects relatively recent thinking in aquatic ecosystem restoration that sets a high priority on restoring the processes and functions in systems that are in the "best" condition, versus the historic approach of focusing resources in systems in the poorest condition. The more recent theory holds that the best systems serve as anchors for preservation of species, and warrant investment of resources first, to guarantee they serve as anchors. The conceptual model, which depicts the logic of the approach, is the same as provided for our current proposal. Monitoring is a key component of the effort, and is designed to inform an adaptive management approach at site, sub-watershed and watershed scales.

Current Status: The Forest is on schedule to complete all the Phase 1 tasks by December 31, 2000. Task 1 accomplishments to date include completion of all NEPA and consultation reports, and implementation of seven of the ten demonstration restoration sites. Implementation monitoring was conducted at each site, and long-term monitoring and maintenance schedules have been established.

Task 2 accomplishments to date include the updating all road inventory surveys in Deer and mill Creek watersheds, and completing inventories in Antelope Creek watershed. Engineering evaluations were completed and over 200 road-related erosion sites were identified and added to a GIS layer. Restoration actions have been recommended for each site and required planning is now well underway. Planning efforts include the completion of a Watershed Assessment, fisheries evaluations, wildlife assessments, heritage resource inventory, the preparation of a Road Management Guide, conducting a Roads Analysis on all the roads within the Deer, Mill, and Antelope Creek watersheds, and initiating consultations with the National Marine Fisheries Service. Our objective is to complete all of the required supporting planning work for the identified restoration work by December 2000 which will enable us to quickly complete site specific NEPA documentation and implement the restoration work beginning in 2001.

Task **3** accomplishments include updating all landowners within the three watersheds, identification of critical riparian areas, and contacting all landowners to inquire about their interest in selling or exchanging land.

A copy of the latest quarterly report is attached which provides specific information regarding the implementation and fiscal status of each Task. There are no outstanding regulatory or implementation issues associated with this project.

Data Collection: The initial data collection for Tasks 1 and 2 consisted of updating an extensive road inventory in Deer and Mill Creeks, and completing an extensive inventory of all roads under Forest Service jurisdiction within the Antelope Creek watershed. Engineers and hydrologists evaluated the roads and

restoration treatments were recommended for over 200 sites. Treatment recommendation spreadsheets were developed and corresponding GIS layers were generated. Ten of the sites were selected as demonstration projects. An interdisciplinary team consisting of fisheries biologists, hydrologists, engineers, archaeologists

Monitoring: Implementation monitoring has been completed on all of the demonstration restoration sites. Long-term monitoring protocols to assess effectiveness have been established and applied to stream reaches at the sub-watershed and watershed scales. Monitoring which assesses condition of key habitat attributes compliments ongoing monitoring of populations and spawning (count and distribution) of spring run salmon. Results from the initial monitoring is already being used to adapt restoration treatment recommendations for 44 sites in the 2001 PSP proposal.

CALFED ECOSYSTEM RESTORATION

LASSEN NATIONAL FOREST
Quarterly Report Narrative

Date **of** Report: April **10,2000** Contract Agency: **US** Forest Service, Lassen N.F.

CALFED Agreement Number: 1425-98-AA-20-16210 Bureau Number: **8-AA-20-16210**

Accounting/Appropriations Data: N30-1852-7400-801-00-0-0
Reclamation Location Code: 14-06-0905

Programmatic/Technical Contact: Russell Volke . Phone/Fax Numbers: (530) 258-2141
(530) 258-5194

Financial Contact: Elaine Courtright Phone/Fax numbers: (530) 257-2151
(530) 252-6428

Project Title: Watershed Improvement:

Project Location: Deer, Mill, and Antelope Creek watersheds, Lassen N.F.

Term **of** the Contract: March 10,1998 December 31.2000
Initiation Date **of** Project Completion Date **of** Project

Description **of** the Project: Stabilization of potential sediment sources within the Deer, Mill, and Antelope Creek watersheds on Lassen National Forest Lands. This quarters accomplishments are in bold text.

Phase 1, Task **1:** Implement Erosion Control Measures at **Known** Sites

Promammatic

1.a. Site survey and Design:

- Task 1a was completed in an earlier quarter.

1.b. NEPA process, ESA consultation:

- Task 1b was completed in an earlier quarter.

1.c. Contract Preparation:

- All required contracts have been prepared in an earlier quarter.

1.d. Project Implementation:

2.c. Update NFS road system database for project area and build GIS and Oracle files:

We added and refined the following GIS road layers and databases within the Deer, **Mill,** and Antelope Creek watersheds: maintenance levels, agreements, and jurisdictions.

2.d. Prepare Road Management Plan for Deer, Mill and Antelope Creek Watersheds:

The Road Management Plan has been completed.

2.e. Resource evaluations, site survey and design:

- The focus this quarter has been working **on** a Roads Analysis within the three watersheds. *An* interdisciplinary team is **on** schedule to complete a draft analysis by June. **A** public meeting was held in March, and a field trip is scheduled in May. The roads analysis process *is* a required part of the Forest Service's proposed changes to its current transportation system management policy. The proposed policy changes are scheduled to go into effect in September **2000.**

Fiscal See Table 1 attachment

Listing **of** each Task and percentage complete: See Table 1 attachment.

Description **of** any contract or task order amendments or modifications: None.

Problems encountered: None.

Phase I, Task **3:** Update land exchange assessments and identify acquisition opportunities.

Programmatic

Acquisition opportunities were identified, but unfortunately none of the current landowners expressed an interest in selling their land or becoming involved with watershed restoration efforts. The Forest plans to continue to pursue these acquisition opporhmities.

Fiscal See Table **1** attachment.

Listing of each Task and percentage complete: See Table **1** attachment.

Description of any contract or task order amendments **or** modifications: None.

Problems encountered Attempts to involve a key landowner in the Deer Creek watershed have failed to date, but the Forest is committed to continuing **our** outreach efforts and will be employing the help of The Nature Conservancy, the Deer Creek Conservancy, and the Big Chico Creek Watershed Alliance.

Notes: The fiscal spreadsheet information accounts for the months of January and February 2000. The fiscal information presented here will not match the quarterly billing which will be submitted at a later date and reflect expenditures for the months of October 1999 through March 2000.

- Seven of the ten demonstration projects have been fully implemented. They include road obliterations, stream crossing repairs and upgrades, landing rehabilitations, road closures, and streambank and gully stabilization. The three remaining projects, the construction of a boulder ford crossing, the repair and upgrade of a stream crossing, and the installation of a box inlet structure are on schedule to be completed in the summer of 2000. All environmental documentation, consultation, and engineering design have been completed for these three remaining projects.

1.e. Monitoring, evaluation and Reporting:

- Implementation monitoring is being completed by the Calfed engineer, fisheries biologist, and hydrologist as demonstration projects are initiated.

Fiscal See Table 1 attachment.

Listing of each Task and percentage complete: See Table 1 attachment.

Description of any contract or task order amendments or modifications: None.

Problems encountered **As** reported last quarter, preliminary implementation costs, (estimated contract bids and force account costs) were expected to be higher than the available funds. After receiving official bids and tracking force account expenditures, the Forest expected to be asking for up to $25,000 in supplemental funds. After making some cost savings adjustments and acquiring additional internal funding, we do not anticipate a need for any supplemental CALFED funding to complete Task 1d.

***Phase* I,** Task **2:** Watershed Restoration Planning

Programmatic

2.a. Update recent M.C.A. road/sediment study; expand to include Antelope Creek watershed above LNF boundary.

- **A GIS** data dictionary has been started that will link individual site information to corresponding **GIS** map layers.

2.b. Coordinate with Co-op road managers, private landowners, counties.

- We have continued to initiate and maintain communication and coordination with our watershed partners concerning future restoration opportunities, grant proposals, and educational programs. The focus this quarter has been working with four Conservancies **on** prioritizing projects for the **2001** CALFED PSP. We also finalized our agreement with the Battle Creek Conservancy to perform fuels and fisheries inventory work within the upper watershed of Battle Creek. We are also working with the V i a Resource Conservation District to plan riparian restoration work **on US** Forest Service land along Gurnsey Creek, a tributary to Deer Creek. Lastly, we recently conducted a public meeting outlining the Forest Service's proposed new transportation system management policy.

Table 1 - Lassen N.F. CALFED Ecosystem Restoration 4/10/00 Quarterly Report: Agreement # 1425-98-AA-20-16210

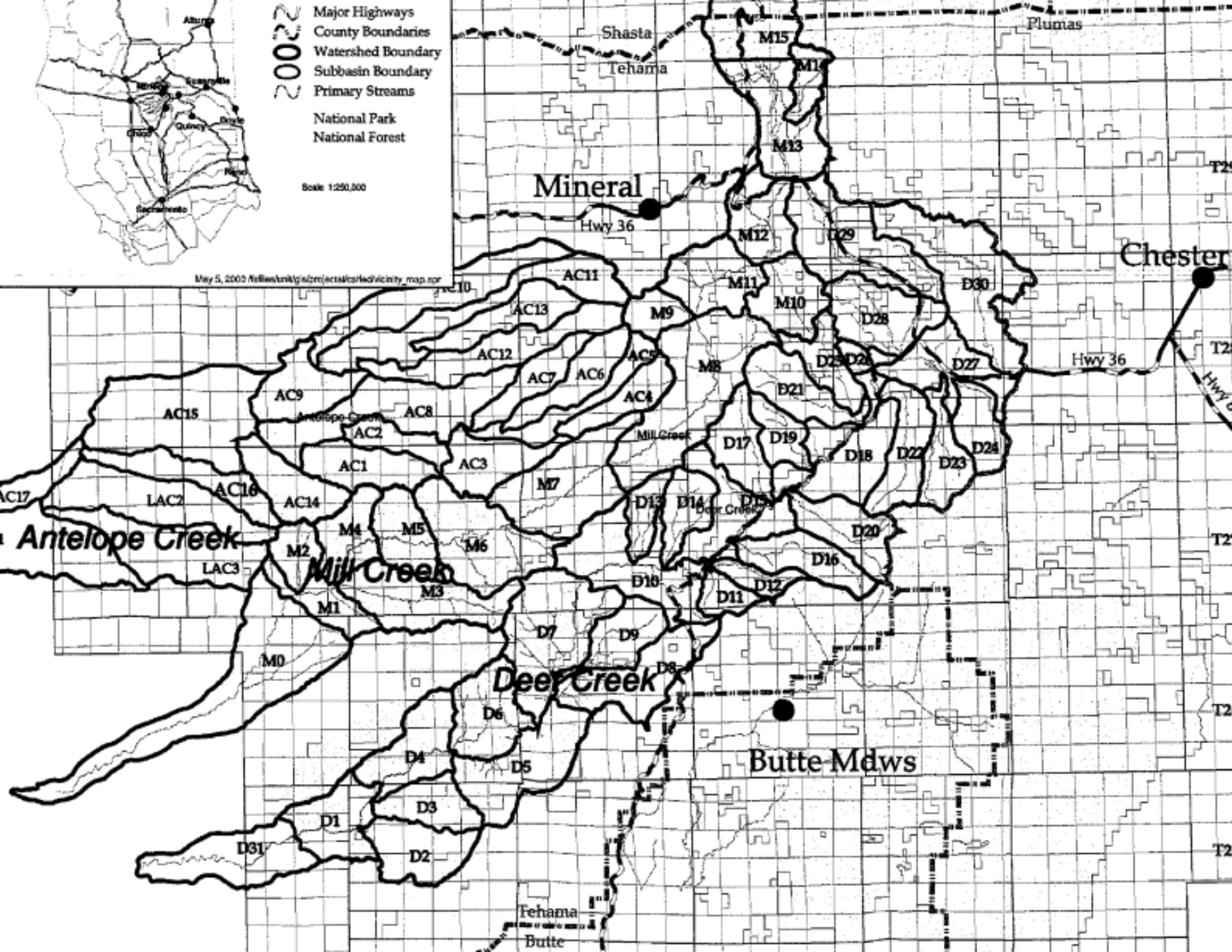
Project phase and task	**CALFED Budgeted/ Approved Funding**	Forest Service Contribution	Completion Schedule	CALFED Expenditures	Forest Service Expenditures	Invoiced /Billed	Remaining Balance	Percentage of Task Completed
Task 1: Implement Erosion Control Measures at Known Sites								
1a. Survey Site and Design	$12,000	$3,000	1998	$12,000	$3,000	$12,000	$0	100%
1b. NEPA process, ESA Consultation	$15,000	$6,000	1998-1999	$15,000	$6,000	$15,000	$0	100%
1c. Contract Prep	$5,000	$2,000	1999	$5,000	$2,000	$5,000	$0	100%
id. Project Implementation and Contract Admin.	$80,000	$8,000	1999-2000	$49,500	$62,000	$5,500	$63,000	*75%*
1e. Monitoring, Evaluation, and Reporting	**$3,000**	$1,000	1998-2000	$500	$1,000	$500	$2,500	10%
Task 1 Total	**$115,000**	**$20,000**		**$82,000**	**$74,000**	**$38,000**	**$65,500**	
Task 2: Watershed Restoration Planning								
2a. Update recent M.C.A. road/sediment study. Expand to Include Antelope Creek	$45,000	$8,000	1998	$42,000	$7,000	$42,000	$3,000	90%

Table 1 - Lassen N.F. CALFED Ecosystem Restoration 4/10/00 Quarterly Report: Agreement # 1425-98-AA-20-16210

Project phase and task	**CALFED** Budgeted/ Approved Funding	Forest Service Contribution	Completion Schedule	CALFED Expenditures	Forest Service Expenditures	Invoiced /Billed	Remaining Balance	Percentage of Task Completed
2b. Coordination with co-op road managers, private landowners, counties	$18,000	$10,000	1998-2000	$17,000	$12,000	$15,000	$2,000	90%
2c. Update NFS road system data base for project area and build *GIS* files	$12,000	$2,000	1998	$9,500	$4,000	$8,500	$2,500	90%
2d. Prepare Road Management Plan for Deer, Mill, &Antelope Cr. watersheds	$19,000	$19,000	1998-1999	$19,000	$19,000	$18,000	$0	100%
2e. Resource evaluations, site survey, and design	**$1**56,000	$10,000	1999-2000	$36,500	$6,000	$20,000	$119,500	25%
Task 2 **Total**	$250,000	$49,000		**$1**24,000	**$48,000**	**$103,500**	**$127,000**	

Table 1 - Lassen N.F. CALFED Ecosystem Restoration 4/10/00 Quarterly Report: Agreement # 1425-98-AA-20-16210

Project phase and task	CALFED Budgeted/ Approved Funding	Forest Service Contribution	Completion Schedule	CALFED Expenditures	Forest Service Expenditures	Invoiced /Billed	Remaining Balance	Percentage of Task Completed
Task 3: Complete Watershed Assessments								
3a. Update land exchange assessments and identify acquisition opportunities	$6,000	$0	1998-1999	$6,000	$1,000	$5,500	$500	100%
Task 3 Total	**$6,000**	**$0**		**$6,000**	$1,000	$5,500	**$500**	
PHASE I TOTAL	**$371,000**	***$69,000***		**$212,000**	**$123,000**	**$147,000**	**$193,000**	
Remaining CALFED Funds	**$159,000**							


Major Highways
County Boundaries
Watershed Boundary
Subbasin Boundary
Primary Streams
National Park
National Forest
Scale 1:250,000
Shasta
Tehama
Plumas
Mineral
Hwy 36
Chester
Butte Mdws
Tehama
Butte
Antelope Creek
Mill Creek
Deer Creek
M0
M1
M2
M3
M4
M5
M6
M7
M8
M9
M10
M11
M12
M13
M15
AC1
AC2
AC3
AC4
AC5
AC6
AC7
AC8
AC9
AC10
AC11
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AC14
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AC17
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LAC3
D1
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D3
D4
D5
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D30
D31

Appendix D

Letters of Support

DEER CREEK
WATERSHED CONSERVANCY

Fred Hamilton -President
Dianne Gaurner - Executive Director
Sue Knox - Community Watershed Coordinator
Joan Hernsted - Education/Outreach Director

May 10,2000

Russ Volke
Lassen National Forest
P.O.Box 767
Chester, CA 96020

Re: CALFED 2000 Ecosystem Restoration Proposal

Dear Russ:

Dear Creek Watershed Conservancy is pleased to have this opportunity to participate in a joint venture proposal with the Lassen National Forest. Since the inception of the Conservancy, we have both been committed to a working partnership realizing the importance and necessity of a cooperative approach for ultimate watershed protection, As a signatory to our Memorandum of Understanding and an active member of our planning process, the Lassen National Forest has willingly demonstrated the value of this synergistic relationship.

This proposal is **an** excellent one as it addresses several of the Conservancies strategies outlined in the Deer Creek Watershed Management Plan, concerns of CALFED mentioned in the ERPP and implements CVPIA priorities

Thank you for the opportunity to participate in a watershed/ecosystem restoration project that will be a role model for desired public/private efforts.

Sincerely,

Dianne Gaumer

Dianne Gaumer
Executive Director

MILL CREEK CONSERVANCY

P.O. Box 188 • Los Molinos. CA 96055
Phone/Fax: (530) 595-4470
email: milcrk1@aol.com

Russ Volke
Lassen National Forest
P. O. Box 767
Chester, CA 96020

May 5,2000

Subject: USFS Almanor District 2001 CAL FED Proposal

Dear Russ:

Thank you for the opportunity to review the preliminary 2001 CALFED proposal for Butte, Deer and Mill Creek watershed. The comments in this letter pertain to Mill Creek watershed exclusively since that is our organization's area of interest and commitment.

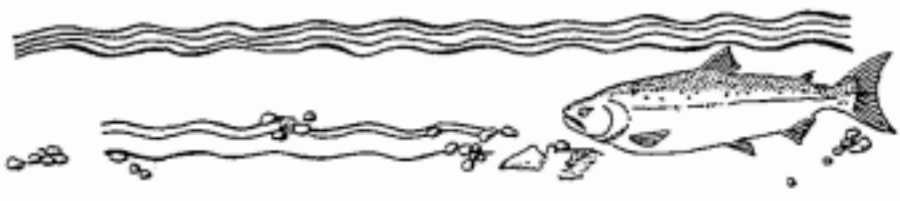
The Mill Creek Conservancy has reviewed your proposal and supports the activities and the projected results. We support the continued restoration efforts that will hopefully reduce sedimentation and erosion in the Mill Creek watershed. Please keep us informed of any activities within the Mill Creek wilderness areas that are of special interest to our group.

I also appreciated the update on the tasks that have been completed in the Mill Creek watershed. The decommissioning of unnecessary roads should benefit the watershed in numerous ways.

The Almanor District of the USFS continues to be a strong partner in the comprehensive management of the Mill Creek watershed. The Mill Creek Conservancy Board of Directors appreciates the collaborative efforts and mutual interests have created improvements in the condition of our watershed.

Sincerely,

Kerry L. Burke



Chester Junior-Senior High School

P.O. Box 797 • Chester, CA 96020
(530) 258-2126 • FAX (530) 258-2306

Dr. Kevin J. Jolly, Principal — Michael Jordan, M.Ed., Assistant Principal

May 10,2000

CALFED Committee
Bay-Delta Program Office
1416 Ninth Street Suite 1155
Sacramento, California 95814

Dear Committee Members,

Chester Jr/Sr High School offers two advanced science classes and one advanced math class that could support the Watershed Stewardship Program; Limnology, Aquaculture and Biometrics.

The Limnology class will be studying the ecology of lakes and streams. It has the capability of monitoring the physical, chemical and biological characteristics of the stream. We have acquired sampling and monitoring equipment by a separate grant.

The Aquaculture class will be studying the methods of raising fish in a small hatchery located on the Chester Jr/Sr High School High campus. Besides a small hatchery, the class will have a sophisticated analytical water lab. This class could support the Watershed Stewardship Program by analyzing water samples for phosphates, ammonia, nitrates, oxygen, pH, alkalinity, total dissolved solids, BOD, etc.

The Watershed Stewardship Program would provide our classes with a valuable opportunity to participate in relevant stream investigation. We would look forward to working together as partners in science education and watershed restoration.

Sincerely,

Dr. Kevin Jolly, Principal

David Bradley, Science Teacher

May 8, 2000

CALFED Bay-Delta Program Office
1416 Ninth Street, Suite 1155
Sacramento, California 95814

Subject: Support for the 2001 CALFED Bay-Delta Proposal

Dear Review Panel:

Following extensive collaboration and diligent review of the grant proposal to be submitted by USDA, Forrest Service, **Lassen** Nation Forest, under the 2001 CALFED Proposal Solicitation Package, the Butte Creek Watershed Conservancy would like to convey its enthusiastic support for the following proposal: ***Lassen National Forest Watershed Stewardship with the Anadromous Watershed of Butte, Deer, and Mill Creeks.*** Representatives of **Lassen** National Frost have been working closely with the Butte Creek Watershed Conservancy and myriad other stakeholder groups to develop the attached assessment and implementation projects for these important watersheds. **This** project **will** go a long way towards meeting the long-term objectives **of** the **CALFED** Bay-Delta Program to restore ecological health and improve water management for **beneficial uses** of the Bay-Delta system. If you have any questions regarding the Conservancy's support for this proposal, please feel free to call the office at 530-893-5399.

For the Conservancy,

James Charles Kurz
Chairman, Board of Directors, Butte Creek Watershed Conservancy

Cc: USFS (Russ Volke)
Butte County Water Division (Vicki Newlin)

Appendix E

Notification Letters

Environmental Compliance Checklist

Land Use Checklist

United States Department of Agriculture
Forest Service
Lassen National Forest
Almanor Ranger District
P.O. Box 767
Chester, CA 96020
(530) 258-2141 Voice/TTY

Date: May 8,2000

Butte County Department of Developmental Services
Planning Division
7 County Center Drive
Oroville, CA 95965

Dear Planners:

The Lassen National Forest would like to notify you that we will again be submitting a grant proposal to CALFED designed to help fund watershed restoration projects and a watershed stewardship educational program in the Chester School System.

As the land steward for thousands of acres within the anadromous watersheds of Antelope, Butte, Battle, Deer, and Mill Creeks, the Forest has a responsibility to address the goals and objectives of the Calfed Ecosystem Restoration Program Plan and to collaborate with Watershed Conservancies, private landowners, and other interested stakeholders when planning, prioritizing, and implementing restoration projects. The Forest is also working in these watersheds with stakeholders to develop consistent inventory techniques, complimentary implementation strategies, uniform monitoring protocols, and adaptive management strategies. We are committed to implementing the best watershed restoration program possible in these very important watersheds.

In 1997, the Forest received a Calfed grant to accomplish restoration work within the Deer, Mill, and Antelope Creek watersheds. In 2000 we are again submitting a grant which will allow us to continue to accelerate our watershed restoration efforts. In Butte County, we have been working with the Butte Creek Watershed Conservancy to identify and prioritize potential restoration projects. An Executive *Summary* of our entire 2000 grant proposal is attached. With the continued help of the Conservancies, other stakeholders, and State and local governments, we hope to again receive supplemental funding for watershed stewardship programs from Calfed.

Within the next week we hope to finalize our 2001 Calfed grant proposal. We hope that you will agree that these proposals are well coordinated and represent a unified effort to implement watershed restoration in these anadromous watersheds.

Sincerely,

Gary Smith

GARY SMITH
Acting District Ranger

United States Department of Agriculture
Forest Service
Lassen National Forest
Almanor Ranger District
P.O. Box 767
Chester, CA 96020
(530) 258-2141 Voice/TTY

Date: May 8,2000

Butte County Board of Supervisors
25 County Center Drive
Oroville, CA 95965

Dear County Supervisors:

The Lassen National Forest would like to notify you that we will again be submitting a grant proposal to CALFED designed to help fund watershed restoration projects and a watershed stewardship educational program in the Chester School System.

As the land steward for thousands of acres within the anadromous watersheds of Antelope, Butte, Battle, Deer, and Mill Creeks, the Forest has a responsibility to address the goals and objectives of the Calfed Ecosystem Restoration Program Plan and to collaborate with Watershed Conservancies, private landowners, and other interested stakeholders when planning, prioritizing, and implementing restoration projects. The Forest is also working in these watersheds with stakeholders to develop consistent inventory techniques, complimentary implementation strategies, uniform monitoring protocols, and adaptive management strategies. We are committed to implementing the best watershed restoration program possible in these very important watersheds.

In 1997, the Forest received a Calfed grant to accomplish restoration work within the Deer, Mill, and Antelope Creek watersheds. In 2000 we are again submitting a grant which will allow us to continue to accelerate our watershed restoration efforts. In Butte County, we have been working with the Butte Creek Watershed Conservancy to identify and prioritize potential restoration projects. An Executive *Summary* of our entire 2000 grant proposal is attached. With the continued help of the Conservancies, other stakeholders, and State and local governments, we hope to again receive supplemental funding for watershed stewardship programs from Calfed.

Within the next week we hope to finalize our 2001 Calfed grant proposal. We hope that you will agree that these proposals are well coordinated and represent a unified effort to implement watershed restoration in these anadromous watersheds.

Sincerely,

GARY SMITH
Acting District Ranger

United States Department of Agriculture
Forest Service
Lassen National Forest
Almanor Ranger District
P.O. Box 767
Chester, CA 96020
(530) 258-2141 Voice/TTY

Date: May 5,2000

Tehama County Board of Supervisors
633 Washington Street
Red Bluff, CA 96080

Dear County Supervisors:

The Lassen National Forest would like to notify you that we will again be submitting a grant proposal to CALFED designed to help fund watershed restoration projects and a watershed stewardship educational program in the Chester School System.

As the land steward for thousands of acres within the anadromous watersheds of Antelope, Butte, Battle, Deer, and Mill Creeks, the Forest has a responsibility to address the goals and objectives of the Calfed Ecosystem Restoration Program Plan and to collaborate with Watershed Conservancies, private landowners, and other interested stakeholders when planning, prioritizing, and implementing restoration projects. The Forest is also working in these watersheds with stakeholders to develop consistent inventory techniques, complimentary implementation strategies, uniform monitoring protocols, and adaptive management strategies. We are committed to implementing the best watershed restoration program possible in these very important watersheds.

In 1997, the Forest received a Calfed grant to accomplish restoration work within the Deer, Mill, and Antelope Creek watersheds. In 2000 we are again submitting a grant which will allow **us** to continue to accelerate our watershed restoration efforts. In Tehama County, we have been working with the Deer, Mill, and Battle Creek Conservancies, Collins Pine, and Sierra Pacific, to identify and prioritize potential restoration projects and educational programs. An Executive summary of our entire 2000 grant proposal is attached. With the continued help of the Conservancies, other stakeholders, and State and local governments, we hope to again receive supplemental funding for watershed stewardship programs from Calfed.

Within the next week we hope to finalize our 2001 Calfed grant proposal. We hope that you will agree that these proposals are well coordinated and represent a unified effort to implement watershed restoration in these anadromous watersheds.

Sincerely,

Gary Smith

ITH
GARY SMITH
Acting District Ranger

United States Department of Agriculture
Forest Service
Lassen National Forest
Almanor Ranger District
P.O. Box 767
Chester, CA 96020
(530) 258-2141 Voice/TTY

Date: May 5,2000

Tehama County Planning Department
444 Oak Street
Red Bluff, CA 96080

Dear County Planners:

The Lassen National Forest would like to notify you that we will again be submitting a grant proposal to CALFED designed to help fund watershed restoration projects and a watershed stewardship educational program in the Chester School System.

As the land steward for thousands of acres within the anadromous watersheds of Antelope, Butte, Battle, Deer, and Mill Creeks, the Forest has a responsibility to address the goals and objectives of the Calfed Ecosystem Restoration Program Plan and to collaborate with Watershed Conservancies, private landowners, and other interested stakeholders when planning, prioritizing, and implementing restoration projects. The Forest is also working in these watersheds with stakeholders to develop consistent inventory techniques, complimentary implementation strategies, uniform monitoring protocols, and adaptive management strategies. We are committed to implementing the best watershed restoration program possible in these very important watersheds.

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Within the next week we hope to finalize our 2001 Calfed grant proposal. We hope that you will agree that these proposals are well coordinated and represent a unified effort to implement watershed restoration in these anadromous watersheds.

Sincerely,

Gary Smith

GARY SMITH
Acting District Ranger

United States Department of Agriculture
Forest Service
Lassen National Forest
Almanor Ranger District
P.O. Box 767
Chester, CA 96020
(530) 258-2141 Voice/TTY

Date: May 8, 2000

Plumas County Planning Department
520 Main Street, Room 121
Quincy, CA 95971

Dear Plumas County Planners:

The Lassen National Forest would like to notify you that we will again be submitting a grant proposal to CALFED designed to help fund watershed restoration projects and a watershed stewardship educational program in the Chester School System.

As the land steward for thousands of acres within the anadromous watersheds of Antelope, Butte, Battle, Deer, and Mill Creeks, the Forest has a responsibility to address the goals and objectives of the Calfed Ecosystem Restoration Program Plan and to collaborate with Watershed Conservancies, private landowners, and other interested stakeholders when planning, prioritizing, and implementing restoration projects. The Forest is also working in these watersheds with stakeholders to develop consistent inventory techniques, complimentary implementation strategies, uniform monitoring protocols, and adaptive management strategies. We are committed to implementing the best watershed restoration program possible in these **very** important watersheds.

In 1997, the Forest received a Calfed grant to accomplish restoration work within the Deer, Mill, and Antelope Creek watersheds. In 2000 we are again submitting a grant which will allow us to continue to accelerate our watershed restoration efforts. In Plumas County, we have been working with the Deer Creek Conservancy, Collins Pine, Sierra Pacific, and the Chester schools to identify and prioritize potential restoration projects and educational programs. An Executive summary of our entire 2000 grant proposal is attached. With the continued help of the Conservancies, other stakeholders, and State and local governments, we hope to again receive supplemental funding for watershed stewardship programs from Calfed.

Within the next week we hope to finalize our 2001 Calfed grant proposal. We hope that you will agree that these proposals, in particular our proposal to bring a watershed stewardship program to the Chester schools, are well coordinated and represent a unified effort to implement Watershed restoration in these anadromous watersheds.

Sincerely,

Gary Smith

GARY SMITH
Acting District Ranger

United States Department of Agriculture | Forest Service | Lassen National Forest | Almanor Ranger District
P.O. Box 767
Chester, CA 96020
(530) 258-2141 Voice/TTY

Date: May 8,2000

Plumas Board of Supervisors
520 Main Street, Room 309
Quincy, CA 95971

Dear Plumas County Board of Supervisors:

The Lassen National Forest would like to notify you that we will again be submitting a grant proposal to CALFED designed to help fund watershed restoration projects and a watershed stewardship educational program in the Chester School System.

As the land steward for thousands of acres within the anadromous watersheds of Antelope, Butte, Battle, Deer, and Mill Creeks, the Forest has a responsibility to address the goals and objectives of the Calfed Ecosystem Restoration Program Plan and to collaborate with Watershed Conservancies, private landowners, and other interested stakeholders when planning, prioritizing, and implementing restoration projects. The Forest is also working in these watersheds with stakeholders to develop consistent inventory techniques, complimentary implementation strategies, uniform monitoring protocols, and adaptive management strategies. We are committed to implementing the best watershed restoration program possible in these very important watersheds.

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Within the next week we hope to finalize our 2001 Calfed grant proposal. We hope that you will agree that these proposals, in particular our proposal to bring a watershed stewardship program to the Chester schools, are well coordinated and represent a unified effort to implement watershed restoration in these anadromous watersheds.

Sincerely,

GARY SMITH
Acting District Ranger

Environmental Compliance Checklist

All applicants must fill out this Environmental Compliance Checklist. Applications must contain answers to the following questions to be responsive and to be considered for funding. ***Failure to answer these questions and include them with the application will result in the application being considered nonresponsive and not considered for funding.***

1. Do any of the actions included in the proposal require compliance with either the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA), or both?

   X
   YES NO

2. If you answered yes to #1, identify the lead governmental agency for CEQA/NEPA compliance.

   US Forest Service – In compliance with the Regulations contained within the National Environmental
   Lead Agency Policy Act.

3. **If you answered no to #1, explain why CEQA/NEPA compliance is not required for the actions in the proposal.**

4. If CEQA/NEPA compliance is required, describe how the project will comply with either or both **of** these laws. Describe where the project is in the compliance process and the expected date of completion.

   The proposed project will comply with all NEPA regulations and requirements. The "left side" NEPA planning, which will support the development of site-specific implementation work is scheduled to be completed by December 2000. These reports will include a Roads Analysis, fisheries and wildlife Biological Assessments, heritage resource inventory, and consultation forms for the National Marine Fisheries Service.

5. **Will** the applicant require access across public or private property that the applicant does not **own to** accomplish the activities in the proposal?

   YES X
   NO

   If yes, the applicant must attach written permission for access from the relevant property owner(s). Failure to include written permission for access may result in disqualification of the proposal during the review process. Research and monitoring field projects for which specific field locations have not been identified will be required to provide access needs and permission for access within 30 days of notification of approval.

6. Please indicate what permits or other approvals may be required for the activities contained in your proposal. Check all boxes that apply.

LOCAL

Conditional use permits	___
Variance	___
Subdivision Map Act approval	___
Grading permit	___
General plan amendment	___
Specific plan approval	___
Rezone	___
Williamson Act Contract Cancellation	___
Other_____ (please specify)	
None required	X

STATE

CESA Compliance	___ **(CDFG)**
Streambed alteration permit	___ **(CDFG)**
CWA § **401** certification	___ **(RWQCB)**
Costal development permit	___ **(Costal Commission/BCDC)**
Reclamation Board approval	___
Notification	___ (DPC, BCDC)
Other_____ (please specify)	
None required	X

FEDERAL.

ESA Consultation	X (USFWS)
Rivers & Harbors Act permit	___ (ACOE)
CWA § **404** permit	___ (ACOE)
Other_____ (please specify)	
None required	___

DPC= Delta Protection Commission
CWA= Clean Water Act
CESA= California Endangered Species Act
USFWS= U. S. Fish and Wildlife Service
ACOE= U.S. Army Corps **of** Engineers
ESA = Endangered Species Act
CDFG= California Department **of Fish** and Game
RWQCB= Regional Water Quality Control Board
BCDC= Bay Conservation and Development Comm.

Land Use Checklist

All applicants must fill out this Land Use Checklist for their proposal. Applications must contain answers to the following questions to be responsive and to be considered for funding. ***Failure to answer these questions and include them with the application will result in the application being considered nonresponsive and not considered for funding.***

1. Do the actions in the proposal involve physical changes to the land (i. e. grading, planting vegetation, or breeching levees) or restrictions in land use (i.e. conservation easement or placement of land in a wildlife refuge)?

X
YES

_____
NO

2. If NO to #1 explain what **type** of actions are involved in the proposal (i.e., research only, planning **only).**

3. If **YES** to **#1,** what is the proposed land use change or restriction under the proposal? There are no expected changes in land use change. Restrictions could include reduced vehicle access where road closures or decommissioning is proposed.

4. If **YES** to **#1,** is the land currently under a Williamson Act contract?

_____
YES

X
NO

5. If **YES** to **#1,** answer the following:

Current land use	National Forest land
Current zoning	N/A
Current general plan designation	N/A

6. If Yes to **#1,** is the land classified as Prime Farmland, Farmland of Statewide Importance **or** Unique Farmland **on** the Department of Conservation Important Farmland Maps?

_____
YES

X
NO

_____
DON'T KNOW

7. If Yes to **#1,** how **many** acres of land will be subject to physical change or land use restrictions under the proposal?
There are **44** individual restoration sites plus a meadow restoration task. Estimated acres subject to physical change is 100.

8. If **YES** to **#1,** is the property currently being commercially farmed or grazed?

_____
YES

X
NO

9. If **YES** to **#8,** what are the number of employees/acre_____
The total number of employees_____

10. **Will** the applicant acquire any interest in land under the proposal **(fee** title or a conservation easement)?

_____ **YES** X NO

11. What entity/organization will hold the interest?
N/A

12. If **YES** to **#10,** answer **the** following:

Total number of acres to be acquired under proposal _____
Number of acres to be acquired in fee _____
Number **of** acres to be subject to conservation easement _____

13. For all proposals involving physical changes to the land or restriction in land **use,** describe what entity or organization will:

Manage the property — US Forest Service

Provide operations and maintenance services — US Forest Service

Conduct monitoring — US Forest Service

14. For land acquisitions (fee title or easements), will existing water rights also be acquired?

_____ **YES** N/A NO

15. Does the applicant propose any modifications to the water right or change in **the** delivery of the water?

_____ **YES** X NO

16. If **YES** to #15, describe _____

Appendix F

Selected Bibliography

Selected Bibliography

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